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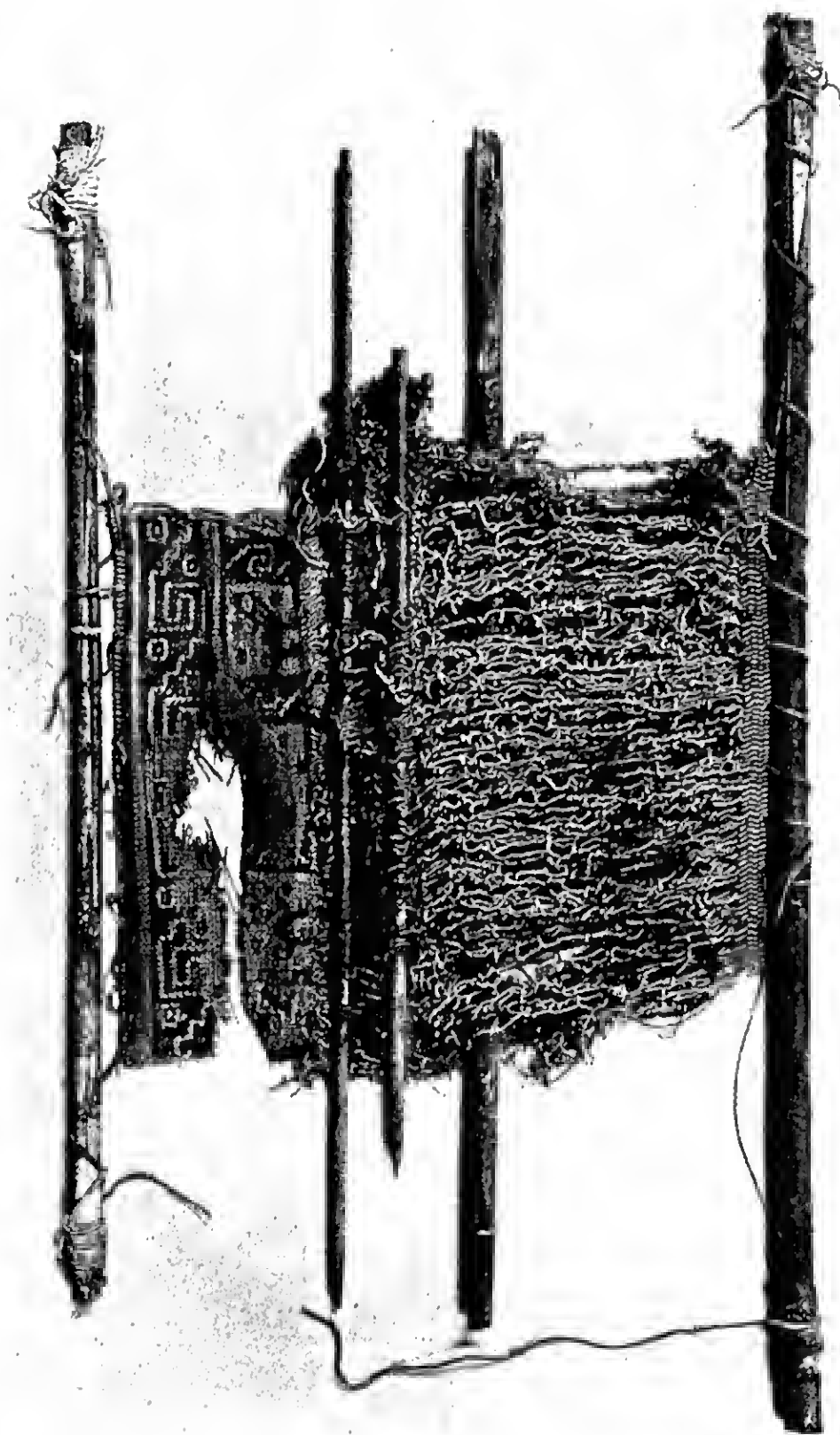
ERRATA.

- No. 44, page 64, line 9, for Mr. F. R. Hoars read Mr. F. R. Hoare.
 No. 63, page 105, line 38, for Lieut.-Colonel J. H. Hutton read J. H. Hutton.
 No. 67, page 113, line 2, for Lt.-Col. J. H. Huttoo read J. H. Hutton.
 No. 91, page 161, line 27, for corners of these figures, read corner of these figures.
 No. 91, page 162, footnote §, for Museum für Völkerkunde, read Museum für Völkerkunde.
 No. 91, page 162, abbreviations, V.L., for die Altertümer von Benin, F. von Luschan, read die Altertümer von Benen, F. von Luschan.

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A PERUVIAN LOOM OF THE CHIMU PERIOD.

MAN

A MONTHLY RECORD OF ANTHROPOLOGICAL SCIENCE.

PUBLISHED UNDER THE DIRECTION OF THE
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ORIGINAL ARTICLES.

With Plate A.

Peru: Technology.

Joyce.

Note on a Peruvian Loom of the Chimu Period. By T. A. Joyce. 1
(With Plate A.)

In MAN, 1921-106, I figured a Proto-Chimu vase with a painted scene representing a number of weavers engaged in preparing tapestry upon a loom without a heddle. In that article I remarked upon the scarcity of Peruvian looms in museums, and referred to the regrettable fact that practically all were unaccompanied by such details, relating to the circumstances of their discovery, as might enable us to assign them to their proper place in the sequence-dating which is for the moment accepted by archaeological students.

The object of the present note is to put on record a pre-Spanish loom from Peru of a type hitherto unchronicled, although its existence could be inferred from the technique of many textile specimens which have been preserved for us. In the previous note, to which I have just referred, I made a number of remarks upon the art of weaving as practised in Peru. It would be a waste of space to repeat them here, but I would remark that the present note loses much of its significance unless it is read as a sequel to its predecessor. The loom which I propose to discuss is figured on Plate A. The dimensions are as follows:—

Length of warp-beam (jointed cane)	-	-	-	20½ in.
Length of cloth-beam (jointed cane)	-	-	-	17 in.
Total length of loom	-	-	-	11 in.
Length of warp	-	-	-	9½ in.
Breadth of textile	-	-	-	8 in.
Depth of woven portion	-	-	-	2½ in.

The peculiarity of this loom, as compared with other specimens which have survived, lies in the fact that it is adjusted for the manufacture of a double-faced cloth (of which many examples are preserved in museums). It is furnished with two warps and two wefts, white and brown respectively. Each warp, with its corresponding weft, is so manipulated that it passes from one surface of the cloth to the other at regulated intervals; thus producing a pattern which, though identical on each surface, is shown in reversed colours, i.e., brown on white on one side, white on brown on the other. Both warps and both wefts are cotton; the white in the

natural colour, the brown dyed. The dye has had a deleterious effect upon the brown warp and weft, which has become so fragile that it breaks at the slightest handling, and in one or two places has decayed clean out of the woven fabric.

The method of warping must have been continuous, such as is illustrated in Fig. 6 of Schmidt's monograph,* the double warp, white and brown, being arranged in pairs of warp-threads alternately. A kind of selvage along both warp-beam and cloth-beam was then inserted, consisting of three picks of a stouter weft than

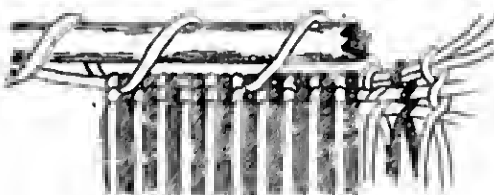


FIG. 1.

that used in the preparation of the rest of the cloth (and employed in single, double or treble strands), each pair of warp threads being twined between each pick. Fig. 1 shows the schematic arrangement of this "selvage" along the warp-beam. That along the cloth-beam is exactly similar, except that each weft-element consists

of a triple strand. From the latter point the weaving proceeded in an ordinary chequer technique. The design is arranged in rectangles, and consists of the well-known "cat" figure, alternating with the stepped coil. The warps run 28 to the inch, the wefts, 22. For the construction of this double-faced textile, with its elaborate design in reciprocal colours, only two heddles are provided. These heddles, plain wooden rods, serve to raise the odd warp-elements of the white and brown series respectively; they are connected with these warp-elements by a single cotton thread arranged "alternately"† (see Fig. 2 a). In the loom under discussion, the upper heddle manipulates the odd elements of the white warp, and

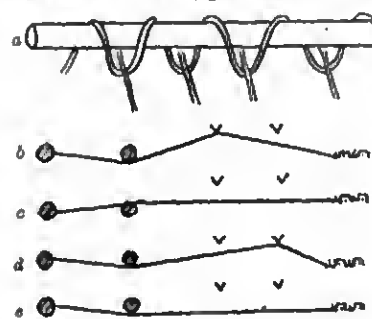


FIG. 2.

is reciprocated by the reed shed-stick immediately above, which serves to float the even elements. The lower heddle, which manipulates the odd elements of the brown warp, has no reciprocating shed-stick; but there must surely have been one, which has either fallen out or decayed. However, the operation of the loom, in its present state, is expressed schematically in Figs. 2 b, c, d, and e, which shows four successive picks, the heddles being operated alternately. The necessity of a second shed-stick, reciprocal to the second heddle, is evident.

As regards the date of this loom, information, as in most cases, is lacking. It forms part of a collection of textiles and other objects from various burial grounds in the Departments of Lambayeque, La Libertad and Ancachs, especially in the Pacasmayu Valley, but there is no record to show what finds were immediately associated with it. The collection was formed by the late Dr. do Bolivar, and was acquired by the British Museum in 1907. To judge off-hand, from the meagre information as to locality, from the technique, the material and the low-toned colours, I should place it as belonging to the Chimu period of the Truxillo region, after the conquest of the coast by the Inca, which occurred about 1400 A.D., but before the advent of the Spaniards in the early sixteenth century.

T. A. JOYCE.

* "Über Altperuanische Gewebe," *Baessler-Archiv*, Band I, Heft I.

† See H. Ling Roth, "Studies in Primitive Looms," *J.R.A.I.*, Vol. XLVI, pp. 285-286. This method of arranging the heddle-leash is shown by the same authority to be characteristic of the loom of Indonesia (Mlanun and Igorote) and Oceania (Santa Cruz), but, strangely enough, not of the looms of the Uitoto, just across the Andes, nor of the Apache.

Europe, Western: Religion.

Murray.

The Witch-Cult in Palæolithic Times By Miss M. A. Murray.

2

The figure recently discovered in the cave of the Trois Frères* is of peculiar interest as throwing light on the beliefs of palæolithic man. It also helps to prove that the survivals of early religion, which are manifest in Europe as late as the seventeenth and even the eighteenth century of our era, have their roots in a stratum far more primitive than seemed probable at first. From various indications the witch-cult appeared to belong to the neolithic time—a flint-working, pre-agricultural period; but this palæolithic figure takes it back to a still more remote date. The picture of the horned man in the cave of Trois Frères might have been drawn from a description by the witches of their god; or, *vice versa*, the witches, in describing their god, might have been describing this figure. In the picture, as with the witch-god, there is the mask with a long beard, the horns on the head, the animal's skin over the body, and the animal's tail attached. Most important, however, are the strongly-marked genital organs, which are out of proportion in size, and are as clearly artificial as in the case of the Devils of the witches. This character, taken in conjunction with the attitude of the figure, suggests that the palæolithic "deity" is represented as performing a fertility rite, probably a dance, to promote the fertility of the animals which he himself represented, the reindeer and the horse, as well as his human worshippers. The representation being permanent would, to the primitive mind, be sufficient to ensure the permanence of that fertility. Among the witches, fertility dances were performed at the Great Sabbaths, and in this connection the representation at Cogul of women dancing round a phallic figure must be remembered; for here again is another close resemblance between the cult of the witches and the cult of palæolithic man.

M. A. MURRAY.

East Nigeria:

Justice.

The Ancient Metal Workings in East Nigeria. By J. N. Justice;

3

communicated by Sir H. H. Johnston, G.C.M.G., K.C.B.

The following are extracts from a letter recently addressed to Sir Harry Johnston:—

DEAR SIR,

* * *

I wonder whether the following facts would be of interest to you (in regard to the BAUCHI country of Eastern Nigeria)? :—

1. *Terraced and Irrigated Country.*—There are several instances of this between Bukuru and Ropp on the Bauchi plateau. This form of cultivation is not in use by the Pagans, the present day inhabitants.

2. *Ornaments of Metallic Tin.*—In the Bisichi district, in winning cassiterite, a considerable number of curious perforate cylindrical tin beads have been dug up from a depth of from 12 to 16 feet. The beads are about a quarter of an inch in length.



* See Man, 1921, 108.

In the same way, in winning tin at Ropp, curious spirals half an inch in length are frequently recovered in dressing the cassiterite. These spirals are of pure tin and could scarcely have been formed by other than human agency.

Whereas these ornaments are found at considerable depths, stone implements are commonly found all over the surface, but chiefly where there are any stonework erections and earth mounds.

3. *Stone Circles*.—These are fairly common between Gnar and Baron, which lie to the S.W. of Ropp. Where the approach is difficult the circles are small, 10 feet in diameter; but in more open country, where the hill is comparatively flat, the circles reach 50 feet in diameter.

The average height of the wall is from 4 to 5 feet. Some of the circles are complete, others have been broken by the Pagans and used for keeping their goats in.

4. *Bridges*.—These are, perhaps, the most interesting of the stonework erections. I am enclosing a photograph of one which crosses the river by the Pagan village of Baron. Unfortunately the photo shows very little of the construction. The causeway is laid with flat flags of granite, which are now worn quite smooth. It is wide enough for a horse and man and has a parapet of about a foot in height on both sides. There is no cement used in the building, all drywalling. The roofs of the two culverts are formed with very large flat slabs of granite. The view shows the upper side of the bridge. On the lower side there are no less than four drywall hutchresses. During periods of flood the bridge is covered to a depth of 16 feet, and the stream has a considerable fall. That it can withstand this force of water says something for the designer.

The Pagans in the district have no idea who built these bridges. All they know is that the bridges were there when they came.

Yours faithfully,

J. N. JUSTICE.

Mexico: Archæology.

Nuttall.

Recent Archæological Discoveries in Mexico.

By Mrs. Zelia

Nuttall—being an abstract of a communication to the Royal Anthropological Institute at a meeting held on 22nd November, 1921.

4

As an introduction to her report Mrs. Nuttall referred briefly to the somewhat alarming fact that, after having been quiescent for centuries, the great volcano Popocatepetl entered a fresh period of activity in April, 1920, which is still going on.

Evidence that in remote antiquity and at long intervals great volcanic disturbances took place in the Valley of Mexico has been forthcoming during the last decade. Clay figurines of two totally distinct types and archaic forms have been found under conditions which indicate that the topography of the valley had been changed and its inhabitants destroyed by great catastrophes which ante-dated the arrival of the Nahuas or Aztecs in this region.

In 1909 Mrs. Nuttall's attention was first drawn to certain totally unfamiliar types of clay figurines offered for sale by Indians in the vicinity of Atzacapotzalco. They were delicately fashioned of the finest clay, with slender bodies, long faces, smooth hanging hair—some wearing chaplets of flowers—all presenting a worn and polished surface. This was accounted for when it was finally ascertained where they had been found. Some were actually extracted from under a gravel bed 16 feet deep, which was being worked by a Mexican company. With them were innumerable fragments of pottery vessels—all rounded or much worn. In order to distinguish them, Mrs. Nuttall has suggested that, since they were found *in situ* and *per se* under the gravel, they should be named, for the present, the sub-gravel type.

The finest specimen of this type is not, however, water-worn, but is in a perfect state of preservation. It is at the Trocadero Museum and is the only one of its kind in the large collection made many years ago by Monsieur Diguët in the State of Jalisco. It is labelled as being from a town at the base of the volcano of Colima on the Pacific slope and may prove to be a clue leading to further discoveries. In the valley of Mexico the gravel beds extend under the great lava flow which covers several square miles at the base of the extinct volcano named Ajusco.

Under this lava bed, to which Dr. Tempest Anderson assigned at least two thousand years, a totally different type of terra-cotta figurines was found *in situ* by Mrs. Nuttall in 1908, and later by Señor Gamio, the actual head of the Department of Archaeology in Mexico.

The depth of the lava bed attains in many parts over twenty feet and under this, beside terra-cotta heads, fragments of figurines and various vessels and stone objects, Señor Gamio found three interments, about five feet under the lava bed. The designation "snb-lava type" has been adopted by Mrs. Nuttall and Señor Gamio to designate this type, which is characterised by turbans and caps, evidently made of fine stuffs or fur, and decorated with circular ornaments, possibly of stone or shell. These curious remains testify that at a remote period the southern portion of the valley of Mexico was inhabited by a race of men who were as different to the sub-gravel type as to that of the Aztec race.

The results of recent excavations made at Teotihuacan were next discussed by Mrs. Nuttall.

These excavations, and re-construction of a small pyramid in the square enclosure called the Ciudadela, were undertaken by Señor Gamio at the instigation and with the encouragement of Señor Pastor Rouaix, the Minister of Agriculture, to whom the Department of Archaeology was assigned under the Carranza régime.

A tunnel, pierced at a height of 35 feet from the base of the pyramid of the Sun to its centre, revealed that it had been formed throughout by layers of what appears to have been mud, filled with innumerable fragments of broken pottery vessels. The mud, evidently baked by the hot sun, became hard and the potsherds prevented the surface from cracking and the mud from flowing downwards too rapidly. The enormous quantity of pottery imbedded in the clay revealed that the site on which the pyramid was raised must have been an extremely ancient one and inhabited by a large population for countless centuries. What is, however, the most remarkable and epoch-making discovery that has recently been made is that of the remains of the ancient pyramid temple with a wonderful sculptured frieze, which had been partly destroyed and then concealed behind another terraced pyramid built in front of it.

The forms of the great serpents' heads and the masks of the water-god Tlaloc which project from the frieze are of an archaic and hitherto unknown form. A striking feature of the design is the representation of numbers of large marine shells, principally the conch shell, and the pecten or pearl shell, on the background below and above the wavy bodies of the serpents.

Not only is it extraordinary to find marine shells thus represented on a temple situated in the heart of the continent, but it is entirely new to the student of Mexican mythology to find that their water-god was originally associated with the ocean—Okeanus.

In conclusion, reference was made to native traditions and beliefs concerning the conch shell and to an official Spanish document dated 1580, to which, though not unknown, no attention has hitherto been paid.

The document establishes that, contrary to the opinions expressed even in his latest work by Professor Selser, Teotihuacan was not an abandoned site at the time of the

Spanish conquest, but was actually occupied and had several thousand inhabitants as late as 1580. A translation of this MS. will shortly be published through the Peabody Museum, Cambridge, by Mrs. Nuttall.

Mention should be made of the important evidence which has become clear by piecing together the results obtained by a number of archaeologists who collected clay figurines in different parts of Mexico. Inferior specimens of the sub-lava type were found by Mrs. Nuttall in 1910 and Professor Seler and others in the Panuco region on the Gulf of Mexico.

Bishop Plancarte made a large collection of similar figurines in the State of Morelas (on the opposite slope of the volcano Ajusco) as well as in the States of Guerrero and Oaxaca. Last year, in Washington, Mr. Morley informed Mrs. Nuttall that he had traced the same type down as far south as Guatemala on the Pacific coast. It will now be seen that a new era has dawned in Mexican archaeology and that we are gaining an unexpected insight into the past history of Mexico. It will only be with the co-operation of geologists that archaeologists can hope to obtain light on the relative ages of the ancient races who inhabited the Valley of Mexico in remote antiquity, and succeeded each other at great intervals of time.

ZELIA NUTTALL.

Europe: Archaeology.

Peake.

The Ice Age and Man. By H. J. E. Peake.

5

The divergent opinions held by geologists on the question of the Ice Age and the various views advanced by archaeologists on the relations subsisting between the glaciations and the first phases of human activity, have long hindered a clear understanding of the early days of man. During the last year or two these differences have been tending to disappear, and it is perhaps worth while for one, who has hitherto kept free from all controversies on this subject, to put forward tentatively a scheme which may, perhaps with subsequent modifications, meet the views of the varying schools of thought. The scheme is only in outline, and is confined to the evidence in British, Baltic and Alpine regions; for other areas have been equated satisfactorily with one or other of these.

The problem before us is twofold. Firstly, we have to consider whether there was one ice age or several, and in the latter case how many we must account for. The other question, upon which opinion is rapidly hardening, is the relation of the different palæolithic periods to the glacial phases.

The first problem is mainly geological, though the human evidence cannot be disregarded, and it is with great diffidence that the present writer, who is no geologist, enters upon his self-imposed task. The fourfold system of glaciation advanced by Penck and Brückner* on Alpine evidence is pretty generally accepted on the Continent, with the one reservation advanced by Boule† that he can find no evidence for the Günz glaciation, which he brackets with the Mindel.

In this country, on the other hand, opinion in official geological circles favours the monoglacial theory, based mainly on the view that there is no evidence here for an oscillation in temperature; while Kennard‡ has propounded a monoglacial theory of his own, based exclusively on malacological evidence. Some years ago James Geikie§ advanced a polyglacial theory, founded largely on Scotch evidence;

* Penck, A., & Brückner, E.: "Die Alpen im Eiszeitalter," 3 vols. Leipzig (1909).

† Boule, M.: "Observations sur un Silex taillé du Jura." *d'Anthrop.* XIX; (1908), 1-13.

‡ Kennard, A. S.: "The Pleistocene Succession in England." *Proc. Prehist. Soc. E. Angl.* II., 249-267.

§ Geikie, James: "The Antiquity of Man in Europe." *Munro Lectures*, 1913. Edinburgh (1914), 243-281.

and more recently Marr* has propounded another, based on English data, while Reid Moir† and Burkitt‡ have endeavoured in different ways to equate this with the Alpine series. Burkitt§ has since then repeated his views, while Macalister,|| more recently still, has accepted the system of Penck and Brückner as true for the Alpine region, while reserving his opinion as to what was happening at that time in more northern latitudes. Further light has been thrown on the question by Brooks, who has attempted to equate the beds in the different regions,¶ and to interpret the glaciations by means of meteorology.**

There is a general tendency among French scientists to agree with Boule and to dispense with the Günz glaciation, but a suggestion is here made which may perhaps reconcile the views of Boule and Penck. The latter suggested that the Würm glaciation had two maxima and that between them there was a slight retreat of the snow, which he termed the Laufen oscillation. If, as seems inevitable, we must equate the Buhl advance with the Fenno-scandian moraines, we seem to have here, too, a similar double maximum, though with a much shorter interval, for the moraines lie in two definite lines, and, following De Geer's†† calculations, these would have been laid down at an interval of about 300 years. Again De Geer‡‡ has shown that the Ragunda pause was one which lasted for several centuries, and was subject to one or more oscillations; this must be equated roughly with the Daun stadium, but leads us to suspect that both Gschnitz and Daun stadia were but two phases, a few centuries apart, of what is represented in Sweden by the Ragunda pause.

We thus see that not only the Würm but the Buhl and perhaps the Gschnitz-Daun glaciations had double maxima, between which were periods of varying length in which there was a slight amelioration of the climate. It seems possible, at least, that such double maxima may have been a feature of the other glaciations. There is not, it is true, any evidence to lead us to suspect this in the case of the Riss, though it might nevertheless have occurred; it is quite possible, however, that the Mindel and the Günz of Penck are the two maxima of the first glaciation. If we accept this explanation, not only are the views of Penck and Boule reconciled, but the system thus amended can be brought into harmony with Marr's suggestions.

Whether the foregoing arguments, together with the evidence adduced by J. Geikie and Marr, will appeal to the strict monoglacialisists I do not know, but if they are not converted I would invite them to state their objections in these pages.

In the article referred to, Marr made no attempt to equate his system with that of Penck; but Reid Moir and Burkitt have done so to some extent, though they differ from one another in certain particulars. Burkitt suggests that the

* Marr, J. E.: "Man and the Ice Age." *Proc. Prehist. Soc. E. Angl.*, III., 177-191.

† Reid Moir, J.: "A Series of Humanly-fashioned Flints found in the Cliffs and on the Shore at Mundesley, Norfolk." *Proc. Prehist. Soc. E. Angl.*, III., 239-243.

‡ Burkitt, M. C.: (1) "Pleistocene Deposits in England and the Continental Chronology." *Proc. Prehist. Soc. E. Angl.*, III., 311-314.

§ Burkitt, M. C.: (2) "Prehistory." Cambridge (1921).

|| Macalister, R. A. S.: "A Text-book of European Archaeology." Cambridge (1921), Vol. I.

¶ Brooks, C. E. P.: (1) "Correlation of the Quaternary Deposits of the British Isles with those of the Continent of Europe." *Smithsonian Report for 1917*. Washington (1919).

** Brooks, C. E. P.: (2) "The Evolution of Climate in North-West Europe." *Q.J.R. Met. Soc.*, XLVII., 173-194.

†† Geer, Baron G. de: "Om Skandinavien Geografiska Utveckling." *Från Stockholms Högskolas Populära Föreläsningar*. Stockholm (1896).

‡‡ Geer, Baron G. de: "A Geochronology of the last 12,000 Years." *Congr. Geol. Internat. C.R.*, XIth Sess. Stockholm, 1910; Stockholm, 1912.

No.	EPOCH.	ALPINE GLACIATIONS. After Penck and Brückner (revised).	CULTURES.
38 37 36 35 34 33	HOLOCENE.	RECENT.	Historic. Iron Age. Bronze Age. Carnac (Chalcolithic). Robenhausen. Campignian.
32 31 30	PLEISTOCENE.	GSCHNITZ-DAUN. Daun. Oscillation. Gschnitz.	Upper Azilian. Lower Azilian.
29 28 27		Forest. Steppe. Tundra.	Magdalenian vi. Magdalenian v. Magdalenian iv.
26 25 24		BÜHL. Bühl ii. Oscillation. Bühl i.	Magdalenian iii. Magdalenian ii. Magdalenian i.
23 22 21		ACHEN. Tundra. Steppe. Tundra.	Solutrean. Aurignacian. Late Mousterian.
20 19 18		WÜRM. Würm ii. Laufen oscillation. Würm i.	Middle Mousterian.
17 16 15 14 13		RISS-WÜRM. Tundra. Steppe. Forest. Steppe. Tundra.	Early Mousterian. Acheulean. Chellean. Pre-chellean.
12 11 10		RISS. Riss ii. Oscillation ? Riss i.	
9 8 7 6 5	PLIOCENE.	MINDEL-RISS. Tundra. Steppe. Forest. Steppe. Tundra.	
4 3 2		MINDEL. Mindel ii. Oscillation. Mindel i. (Günz).	
1		CRAG. Norwich and Red Crag.	Foxhall.

ENGLAND. After Marr & Kennard (revised).	SCOTLAND. After J. Geikie (revised).	BALTIC. After Baron de Geer (revised).	OARONNE TERRACES. After Obermaier.
Kennot Peat.	Recent.	Limnæa period.	
		Litorina period. Tapes beds of Norway.	
	Corrie glaciers. Upper Turbarian. 25'-30' beach.	Ragunda pause. Early Tapes beds of Denmark.	
Ponder's End. Barnwell Station.	Upper Forestian.	Submerged peat of Norway. Ancyclus Lake. Area clays of Norway. Zirphœa beds of Denmark.	
} Cave earths of North Wales.	Scotch valley glaciers Lower Turbarian.	Fenno-scandian moraine ii. Ra moraine in Norway. Later Dryas beds in Denmark Fenno-scandian moraine i.	
} Loams and Later Palæolithic gravels. Ightham beds.	Lower Forestian.	Yoldia Sea.	
Chalky Boulder Clay.	Large valley glaciers. Mecklinburgian. 130' beach.	Goti-glacial Moraine. Dani-glacial Moraine.	Niederterrassen- schotter (Lower Terrace gravels.)
Hoxne beds. Middle Terrace of Thames. High Terrace of Thames?	Dürntenian.		
} Cromer drifts.	Polonian.		Hochterrassen- schotter (High Terrace gravels).
5. Arctic plant. 4. Yoldia. 3. Upper fresh- water. { Cromer } Forest } 2. Forest. series } 1. Lower freshwater Weybourn Crag.	Tyrolian.		
Chillesford beds.	Saxonian. Norfolkian. Scanian.		Jungerer Decken- schotter. (Later Plateau gravels). Deckenschotter (Plateau gravels).
Norwich and Red Crag.			

chalky boulder clay was laid down in Würmian times, and this I have accepted with a slight reservation. It would appear that the Goti-glacial and Daniglacial moraines must be equated with the two Würmian maxima. Now if De Geer's map* is correct, the Goti-glacial moraine represents the edge of an ice-sheet which did not extend westward of Norway; while the Dani-glacial moraine, which we must equate with the first Würmian maximum, belonged to an ice-sheet which stretched some way over the North Sea. For this reason I have allocated the chalky boulder clay to Würmian. The other points in my scheme need no comment, except that the Chillesford beds, though Arctic, could not have been laid down during the presence of an ice-sheet; so I have placed them in the slight oscillation between the Günz and Mindel maxima of the first glaciation. Among the deposits cited by Marr I have entered those cited by Kennard, and it will be seen that the series on which he depended for his monoglacial scheme is, if Marr is correct, discontinuous, and this destroys the validity of his argument.

But if we accept this scheme, the Mindel glaciation and the Mindel-Riss interval come into the Pliocene. Will other Continental evidence admit of this? Is there any evidence to show that deposits claimed to belong to these phases must be Pleistocene in date, and, if so, is it quite certain that they *must* belong to the Mindel or Mindel-Riss phases? I ask this question for information. If it should turn out that such deposits exist and are pre-Riss and contain remains of Pleistocene *fauna* our scheme so far fails, and we must divide the Günz from the Mindel. This will mean that the evidence for the Günz glaciation, which Boule found missing in France, occurs in the Chillesford beds, while Mindel-Riss deposits have not yet been recognised in England.

Now let us turn to our second problem: the relation of human industries to the Ice Age. Owing to the discovery of a Mousterian industry at Taubach in Germany with a warm *fauna* of Riss-Würm date, Penck suggested that the Chellean industry with its warm *fauna* must belong to the Mindel-Riss, although no Chellean implements had or have yet been found in Germany. The French school, on the other hand, claimed that their Chellean industry with its warm *fauna* belonged to the Riss-Würm and that their Mousterian dated from the close of that phase. In 1906 Obermaier,† from his work on the Garonne terraces, showed that the Mousterian straddled the Würm; but many writers, apparently ignorant of Obermaier's work, continued to place the Chellean in the Mindel-Riss. Burkitt‡ has placed Obermaier's evidence clearly before English readers, and more recently Macalister§ has argued for the same equation, using quite different arguments and evidence. Brooks|| has adopted Penck's view, but does not give his reasons, and, quite lately, Giuffrida-Ruggeri¶ has done the same. It seems clear from the evidence adduced that an early Mousterian industry was in being at Taubach while the Chellean was developing in northern France and elsewhere, and that as the climate deteriorated owing to the approach of the Würmian glaciation, the descendants of the Chellean men, now using Acheulean 'culturo', departed southwards towards the Sahara,** where they survived throughout the glaciation, while the Mousterian

* Geer, Baron G. de: *Ibid.* Pt. 1., p. 253.

† Obermaier, H.: "Beiträge zur Kenntnis des Quartärs in den Pyrenäen." *Archiv für Anthropologie*. Braunschweig. N.F., IV. (1906), p. 299 and V. (1907), p. 244.

‡ Burkitt: (2) 25, 26.

§ Macalister: 585-591.

|| Brooks: (1) and (2).

¶ Giuffrida-Ruggeri, V.: "Su l'Origine dell' Uomo." Bologna (1921).

** M. Reygasse, quoted by Burkitt in *Proc. Prehist. Soc. E. Angl.*, III., 254-5.

men moved into France and spread at any rate as far south as Algeria* and up the Nile Valley to Luxor.†

Such a point of view seems now to be incontestable, as is the fact that Aurignacian man arrived in Europe from Africa during the Achen oscillation. The exact period of the arrival of Solutrean man seems a little uncertain. Macalister‡ brings forward much evidence to show that his arrival in France coincides with a deterioration of the climate, which had already passed from steppe to tundra conditions owing to the approach of the Bühl advance. From Burkitt§ one would understand that steppe conditions had not passed away until after his arrival, but on this point I may have misunderstood him. Again, I should be glad of information.

Another small point of more importance is still obscure. Burkitt|| states very definitely that the coldest phase of the Magdalenian period was the fifth, while Macalister¶ says that it fell early in Magdalenian times. One would like to hear from both of these writers a fuller statement of the evidence on which they base their opinions, so as to ascertain why they have come to different conclusions. The point is important for actual dating, as the Bühl advance seems to be coeval with the Fenno-scandian moraines. Since, as we hear, Baron de Geer has found in America corroboration of his chronological scheme, we should now be in a position to date the later phases, at any rate of the Magdalenian period, with very fair precision, and, with only little less accuracy, the two preceding periods.

I have omitted to include any mention of eoliths and rostro-carinates, as many experts decline to accept their human origin; on the other hand, the Foxhall** implements, as their authenticity has been accepted by the leaders of the French School,†† have been entered. Finally, to prevent misunderstanding, may I remind readers that the periods in the chart are not intended to represent equal lengths of time.

HAROLD PEAKE.

Great Britain: Archæology.

Vulliamy.

Note on a Long Barrow in Wales. By C. E. Vulliamy, F.R.G.S.

The parish of Llanigon lies in the extreme north-east corner of Breconshire, on the border of Wales, not far from the little town of Hay. To the south of Llanigon village, the great spurs of the Black Mountain range roll up through woods and fields to the bare sky-line of the hills. It is on one of these spurs, above the farmstead of Pen-y-Wyrlod, that one finds the recently excavated harrow which is the subject of this note.

The altitude of this place is about 860 feet above sea level, and some 650 feet above the Wye Valley. The barrow is situated between fields and waste land: not in a specially commanding position, and on ground that slopes gently towards the west. Known formerly by the common description of "The Druid's Altar," the side-stones of the kist, just showing above the level of the soil, had attracted the notice of local antiquaries for many years. Recognised by the more enlightened as a long harrow of orthodox late-Neolithic type, it was resolved to

* M. Thépenier, Curator of the Constantino Museum, showed me a photograph of a skull of the Neanderthal type found near that town; I have been unable to find a description of it. Mousterian implements have been found in that neighbourhood.

† Seligman, C. G.: "The Older Palæolithic Age in Egypt." *J.R.A.I.*, LI., 115-144.

‡ Macalister: 373, 376, 582.

§ Burkitt: (2) 42, 127.

|| Burkitt: (2) 104.

¶ Macalister: 386.

** Reid Moir, J.: "Further Discoveries of humanly-fashioned Flints in and beneath the red crag of Suffolk." *Proc. Prehist. Soc. E. Angl.*, III. (1921), 369-430.

†† Burkitt: (2) 81, 82; *Proc. Prehist. Soc. E. Angl.*, III. (1921), 467.

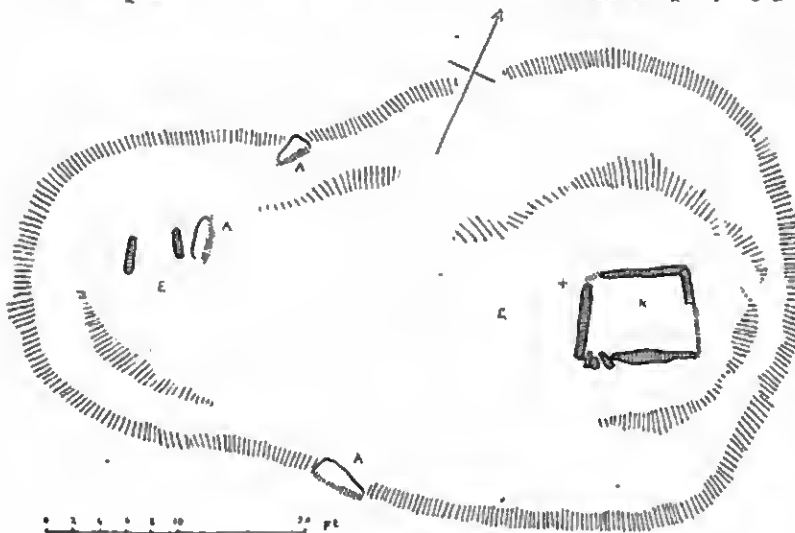
open the kist, and this work was undertaken by representatives of the Woolhope Club of Hereford. Unfortunately, the excavation was not carried out with much regard for method, and the most interesting material has been collected subsequently from the piles of *débris* which were thrown up on either side of the kist.

Before describing the contents of the barrow which have so far been brought to light, it will be necessary to describe the barrow itself.

Properly speaking, it is not a barrow—it is a cairn. The material used in its construction is sandstone (found on the spot), ranging from massive blocks to thin, laminated fragments. The majority of these slabs are laid lengthways, but not in accordance with any formal method of arrangement. Originally, the whole cairn would appear to have been covered with a layer of soil.

Pear-shaped in plan, the greatest length is 60 feet, and the greatest width, about 33 feet. The axis of the cairn, along the line of greatest length, is 66° east of true north, and the axis of the kist, 62° . The eastern end is much higher than the western; it must be remembered that the datum line of the cairn is not by any means level.

The position of the kist (K) is shown in the accompanying plan. Its dimensions are:



north side, 7 feet 6 inches; south side, 8 feet 6 inches; east side, 6 feet 6 inches; west side, 6 feet 4 inches. The eastern slab is obviously split in half, and the northern, though shown *in situ*, has tilted outward. The greatest dimensions

of the side slabs are: north, 6 feet 6 inches wide, 5 feet 3 inches high; south, 6 feet 5 inches wide, 5 feet 4 inches high; east (fragment), 2 feet 5 inches wide, 3 feet 8 inches high; west, 5 feet 8 inches wide, 4 feet 7 inches high.

Excavations have been made at the places marked E—E on the plan, revealing, at the western end, two small blocks set on edge. Large slabs protrude at A—A—A; those on the northern and southern edges seem to mark the periphery of the cairn.

The kist contained the osseous remains of several human individuals and of various domesticated animals, all in a very fragmentary condition; the only complete human bones being those of hands and feet. Professor Keith (I believe) has identified the human remains as those of men, women, and children, of short stature and flat-footed, with the usual characteristics of the Neolithic type.

In sifting the *débris*, I collected no fewer than 27 teeth, of which the greater number are human; many shards of coarse, reddish pottery; and three discarded flakes of flint—two with a milky white patination. The Rev. W. E. T. Morgan, of Llanigon, found two fragments of dark, lustrous flint. Charcoal has been found scattered throughout the cairn, but some of this appears to be recent.

The most peculiar and baffling "find," however, has been made by Mr. A. F. Gwynne, of Glasbury. He discovered, at the spot marked with a cross, some dozens of small blue beads, of a glass-like substance, and tubes of vitreous paste, divided externally into rounded segments—precisely similar to those found in British barrows of the early Bronze Age. Comment must be withheld until further light is thrown on this mysterious discovery.

It would seem probable that the kist was used as an ossuary or place for the deposition of collected bones. So many individuals and animals could never have been hurried intact in so small a grave. The question of disturbance prior to the excavation has not been settled; there are several reasons for believing that the kist has been rifled, or at any rate interfered with, at some distant period.*

Possibly, further excavation will reveal secondary burials in other parts of the cairn. Although the contents of the grave were scattered and broken by careless spade-work, I am informed that the bones were found in a fragmentary state and lying in great disorder. The question of secondary deposits of bone having been made in the chamber is *sub judice*. I think it exceedingly probable that this was the case.

In spite of the fact that it conforms to the ordinary late-Neolithic specification, I do not think that the cairn should be too hastily classified; it may be established later that its true character is transitional.

C. E. VULLIAMY.

Africa, South: Ethnography.

Laidler.

Bantu Ritual Circumcision. By P. W. Laidler.

The following account of the ritual of circumcision among 'Xosas, of the third Christianised generation, is interesting, as it shows the tenacity with which the native clings to customs that are of importance to him, as manhood initiation, in spite of the Church preaching against "Pagan customs" and the Government's regulations regarding the manufacture of assegais.

My informant is a member of "London Church," i.e., of the Mission Church of the London Missionary Society. He lives in the Cape Province, some two or three hundred miles from his tribe's original home.

The custom is upheld only by the pure blooded families; men of his tribe may intermarry with any other Bantu tribe, but not with Hottentots or "Bastards"; those doing so are not considered to belong to the tribe, and their children do not follow the tradition. The age of the youths about to be initiated varies from eighteen to twenty-two; they are taken to an isolated place far from the location by the older men; no women are allowed in the vicinity. The operation may be performed by any man that is thoroughly conversant with the rite. The subject is placed in a semi-reclining position, knees drawn up and far apart, arms lying at side; no expression of pain is to be made during the operation. The foreskin is held between the thumb and forefinger of the left hand, the instrument used is an assegai blade, and the cut made must be a clean one. After the operation the cut is dressed with a red onionlike root (the "Roofworte" of the Afrikaner) or ground mouse-dung, the whole kept in place by a hide string.

The foreskin is buried in a mousehole and the hole closed with sand. The dressing is removed each morning and renewed, until healthy. Initiate during the period of seclusion must not speak of objects by their common names, the alternative names are taught them during adolescence by the old men—e.g., *umfazi* (woman) is now *se'guardi*. After cutting has taken place, if a wrong word is used, the initiate is

* Conclusive proof of disturbance, in my opinion, has now been obtained by the discovery of a coin of the Roman deputy-Cæsar, Crispus (317-326). This was found about a foot and a half below the present surface, near the cross in the plan.—C. E. V.

"spanked" with the flat hands on his arms. He then receives a new name, by which he is addressed by the young men; the use of the old name is restricted to the old men.

The initiate remains isolated until the cut has healed, and rest and sleep are allowed only in the position already described for the operation. When healed, he must run to water, without a stop if possible; if he falls, because of exhaustion, a short rest is allowed; on reaching water, the whole body is washed; after which some rich man of the community smears his body with fat: standing face to face, he makes a stroke with the fat from forehead to navel, and then from the centre of chest to right hand (arms are held horizontally), and then from chest to left hand. The initiate's head is then covered with a blanket and he returns to the kraal or location, where he sits a while, and is told the laws by the old men (e.g., adultery forbidden, must always sleep in same place—that is, must not be a roaming vagabond). He is then, if possible, presented with beasts, money and mealie meal "for luck"; of the meal, he presents a handful to each of the presiding elders. He is now a man.

The assegai used in this ceremony must be handmade in the original fashion; any iron that can be obtained is, however, used, a favourite source being a large sized rasp, from which two can be obtained. The iron is heated in a beast-dung fire, and is worked between a stone hammer and a stone anvil; the bellows used must be made of hide; the smith must be a pure-blooded Bantu.

By means of a "present" I obtained possession of the family circumcision knife, which is ordinarily handed down from father to son, and must not be used for any other purpose; there is great prejudice against these particular assegais being seen or handled by outsiders. The blade is that of an ordinary type, short assegai, much reduced in size by many generations of initiations and preliminary sharpenings.

The cost of obtaining a new blade, for such a purpose, to-day is about four goats, not including travelling and maintenance during the search for a suitable smith.

The fact that the tradition and practice of assegai manufacture is kept up in this manner should be of interest to the authorities in South Africa, as locally manufactured assegais and knives were the chief weapons of offence used by the natives during the recent "Israelite" trouble at Bullhoek, in the Eastern Province.

P. W. LAIDLER.

REVIEWS.

Anthropometry.

Wilder.

A Laboratory Manual of Anthropometry. By Harris H. Wilder, Pb.D.
Philadelphia: Blakiston's Sons & Co. Pp. xi + 193. **8**

This manual gives a description of the anthropometric instruments and methods commonly employed, with precise instructions based on the decisions of the International Congresses at Monaco and Geneva. The various indices and the terminology proposed for their classification are set out in detail, illustrated by examples from a wide range of races. Footnotes supply an adequate bibliography. Separate sections deal with the measurement of the skeleton and of the living, while others deal with methods of graphic reproduction to scale and with the more elementary biometric methods of treating data. Neither in these sections nor in the history is adequate reference made to British publications, perhaps because of the desire to standardise all in the terms of the international proposals. It is, however, to be regretted that so detailed a work should have given no account of or reference to the methods, for example, of Keith and Parsons, a blemish which impairs a volume almost indispensable to the student of physical anthropology. F. S.

Algeria: Ethnography.

Hilton-Simpson.

Among the Hill-Folk of Algeria: Journeys among the Shawia of the Aurès Mountains. By M. W. Hilton-Simpson, B.Sc., F.R.G.S., F.Z.S., F.R.A.I. **9**
 London: T. Fisher Unwin, 1921. Pp. 248, with 40 illustrations and a map. 8 x 5.
 Price 21s. net.

In this volume Mr. Hilton-Simpson gives a popular account of the Aurès country, and a general description of the more obvious features of the customs and beliefs of the Shawia. Although situated within a hundred miles of a popular winter resort, this people retains its primitive culture—a culture which, notwithstanding the adoption of Mohammedanism, has always been sharply differentiated from that of the Moslem invader. The main object of the author's journeys in this region was to investigate the surgical methods of the Shawia medical men, of which practically nothing was known. These will be of interest to those who have not seen the more detailed account published elsewhere. Mr. Hilton-Simpson's graphic account of the country and its people will cause the reader to look forward eagerly to a volume which will deal exhaustively with such topics as the magical beliefs and the evil eye superstitions and other aspects of Shawia life.

E. N. F.

India.

Calcutta University.

University of Calcutta: Journal of the Department of Letters. 3 vols. **10**
 Calcutta University Press, 1920.

It is satisfactory to learn that the Indian Universities are now devoting serious attention to the study of anthropology. That indefatigable worker, Rai Bahadur Sarat Chandra Roy, has recently published a series of Lectures on the principles of the science, which he delivered as Reader in Anthropology before the Patna University, and he has now started a quarterly serial, entitled "Man in India," which will be supplied from the office at Church Road, Ranchi, at the cost of £1 per annum to foreign readers. This publication promises to supply a valuable collection of material for the study of the ethnology of India. The volumes published by the University of Calcutta consist mainly of papers contributed by research students. Mr. Pancnanan Mitra contributes two articles: "Prehistoric Cultures and Races of India" and "Prehistoric Arts and Crafts of India." Besides a general survey of the subject the writer attempts to correlate the Indian periods with those of the West. Some of his equations may prove to be somewhat venturesome, but this is largely pioneer work, and the author promises a complete work on the subject which will deal more completely with the tangled questions involved in his investigation. The chapters on Indian cave paintings, pottery and flint implements contain novel and interesting material. Among other important articles attention may be called to those of Mr. Pramathanath on "International Law and Custom in Ancient India"; Dr. Radhakamal Mukerjee on "The Communal Organisation of Industry as the Regional Type in India"; Mr. Ramachandra Rau on "The Indigenous Banker in India"; Mr. Amresvar Thakur on "Kinship and Administration of Justice in the Jātakas"; and "The Shifting of the Centre of Buddhism in India," by Mr. R. Kimura, a Japanese scholar engaged in the study of Indian Buddhism. The University of Calcutta may be congratulated on the initiation of a serial which will be of much value to anthropologists.

W. CROOKE.

ANTHROPOLOGICAL NOTES.

The Government of the Union of South Africa has given a sum of £1,500 a year for five years from 1920 for the purpose of establishing a School of African **11**

Life and Languages in the University of Cape Town, it being understood that the grant will be continued if, at the end of the period, it can be shown that the school is serving any useful purpose. The University has accordingly established two new chairs, one for Bantu Philology, to which the Rev. Father W. A. Norton has been appointed, and the other for Social Anthropology, recently filled by the appointment of A. Radcliffe Brown, who is a Fellow of the Institute.

In the University of Cape Town candidates for the B.A. degree have to complete nine courses in all, a double course in one subject counting as two courses. Arrangements have been made for a double (*i.e.*, two years') course in Bantu languages and for a double course in Social Anthropology. It will also be possible for students to take their M.A. degree in African Life and Languages.

University College, Johannesburg (shortly to become the University of Witwatersrand), has also developed a Department of Bantu studies, in connection with which the Council of Education proposes to publish a Bulletin under the title *Bantu Studies*. The first number was issued in October.

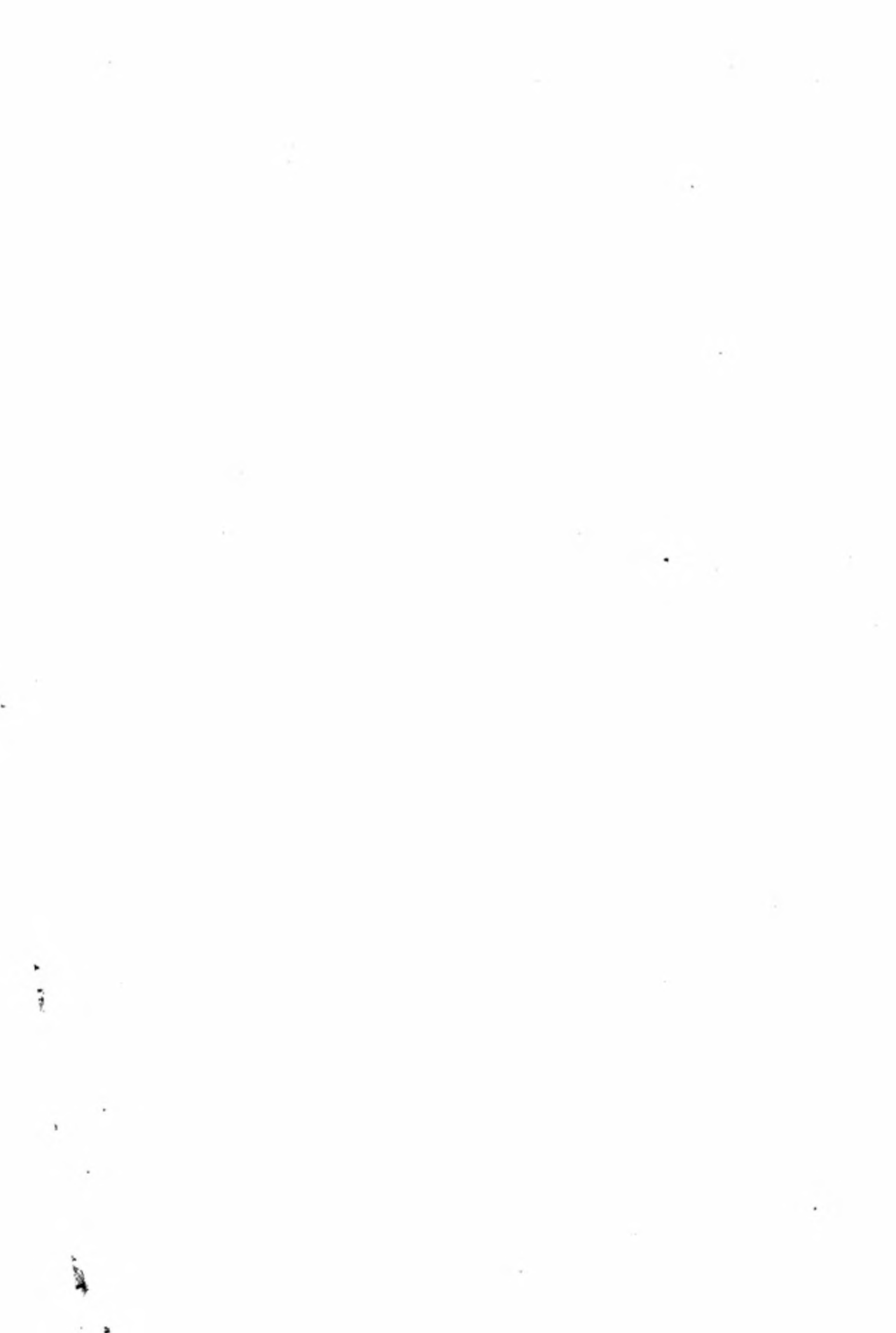
Professor W. A. Norton has kindly forwarded to the Institute a copy of the syllabus of the School of African Life and Languages. In Bantu languages there are two qualifying courses for the B.A. degree, the first comprising General Bantu Philology, a Bantu language, and the history of the tribe whose language is taken. The second course requires a study of Developed Bantu Philology, a second Bantu language, or an extended study of the language (with its literature) previously taken, and general Bantu history with special reference to the tribes whose languages are studied. In Social Anthropology, which also falls into two courses, the study of General Social Anthropology is combined with that of the races and cultures of Africa, particularly South Africa, and the social system of the Bantu. In order to take the second course in Social Anthropology, students must have taken the first course in Bantu languages, while for the degree of M.A. both courses, in Bantu languages and in Social Anthropology, must have been taken.

Professor Norton's inaugural address in the Chair of Bantu Languages is reported in the *Cape Times* of 26th October. After a brief survey of the reasons which make it urgently necessary that Bantu languages should receive careful study and investigation on both utilitarian and scientific grounds, he devoted the greater part of his address to an analysis of Sesuto literature and lore.

During excavations made at Middleton-on-the-Wolds recently in connection with a Whiting Works there, a square grave cut into the chalk and measuring 3 feet each way was met with, and adjoining it a long V-shaped trench. The owner, Mr. E. B. Lotherington, communicated with Mr. T. Sheppard, M.Sc., and the trench was carefully excavated.

The grave contained a human skeleton in a crouched position, on one arm of which was an iron bracelet upon which two large bone beads were threaded. In the same grave was a massive bone ring made from the thick part of an antler of a Red Deer. This measures 2½ inches across and is remarkably well-made, resembling the familiar ivory rings from Africa.

Pottery found in association with the burial consists of typical grey-ware turned on a wheel and the rough hand-made dark pottery made from the Kimeridge Clay and contained white fragments of grit, etc. The trench yielded numerous pieces of pottery, a part of a Red Deer antler pick which had been cut by a metal instrument, and bones of horse, ox, pig, sheep and dog. The remains point to the hill upon which they were found having been occupied by the Romans in the second or third century, the trench excavated being only one of a number visible. The objects excavated have been placed in the Museum at Hull.





GUSTAF OSCAR AUGUSTIN MONTELIUS.

ORIGINAL ARTICLES.

With Plate B.

Obituary.

Peake.

Gustaf Oscar Augustin Montelius. *By Harold Peake.*

12

It is with deep regret that we chronicle the death of one of the most distinguished Honorary Fellows of the Royal Anthropological Institute, the veteran archaeologist, Dr. Oscar Montelius, which took place at Stockholm on 4th November, 1921.

Born at Stockholm in 1843, Gustaf Oscar Augustin Montelius was attracted at an early age to the study of prehistoric archaeology, and published his first paper on the subject in 1869. In April the next year Schliemann began his famous excavations at Hissarlik, followed up with explorations of the legendary sites of Greece. The young northern archaeologist followed the results of these researches with the deepest interest, for here was the opportunity of applying Greek legend to the elucidation of the bronze age, just as the Sagas had helped to explain the iron age in the Baltic.

From that time on his aim was to construct, not only a comparative, but an actual chronology for the bronze and early iron ages. For a long time this was impossible, as nothing had been found in Greek lands which could readily be equated with the bronze civilisation of the North; besides the actual chronology of the Mycenaean culture was uncertain. The discovery in 1888 by Tsountas, in a tomb on the acropolis of Mycenae, of two fibulae associated with a scarab of Amenhotep III., gave him the clue, and, when the same type was found in the pile-dwellings of Peschiera a few years later, he was able to work out his masterly account of the evolution of Italian fibulae. From this basis Montelius set to work to construct a chronology for the bronze age in Europe. In 1892 he published "*Die Bronzezeit in Orient und Griechenland*"; in 1895 he began "*La Civilisation primitive en Italie depuis l'Introduction des Métaux*," and soon afterwards many other papers on prehistoric chronology both in *Archæologia* and in the *Journal* of this Institute. The discoveries at Cnossos, with their synchronisms with Egypt, enabled him to continue this work in greater detail, as in his "*Die vorklassische Chronologie Italiens*," published in 1912. Shortly before his death he was contemplating dividing the bronze age, or at any rate the latter part of it, into sub-periods of twenty-five years' duration.

He was a wonderful linguist, and seems to have been able to write with equal ease in most of the languages of Europe; his output of work was immense, yet he was ever ready, as the present writer has experienced, to put his vast knowledge at the disposal of others. He engaged little in excavation or in the detailed examination or description of single objects, but was rather a great synthesiser and interpreter of the discoveries of others. Thanks largely to his work in this direction, our knowledge of the bronze age has ceased to be limited to a collection of disconnected elements, but is rapidly becoming an intelligible story.

Montelius was a Director of the State Museum of Sweden, a Fellow of the Swedish Academy and an Honorary Fellow of many European Societies. A great many of his colleagues from ten different countries united in 1913 to commemorate his 70th birthday by presenting him with a memorial volume.

HAROLD PEAKE.

Africa: Pygmies (Babongo).

Migeod.

A Talk with some Gaboon Pygmies. *By F. W. H. Migeod.*

13

When travelling across Africa last year I had a talk with some pygmies of the Babongo tribe on the Upper Ogowe River.

Through the kindness of M. Arnault, the Chef de Circonscription at Lastoursville, two Babongo, a brother and sister, came to see me, or rather were brought in from the bush. Their arrival caused interest even to the local natives, as none had been known to come in before.

These two were a very pleasant-looking little pair. At the first interview they were shy, but I gave them a present after a very brief conversation, and they departed to return next day. At the second meeting they were quite at home and communicative. Even the woman was not entirely dumb, and, as the talk went on, even ventured to speak on her own account.

The language used was Awanji, which is the same as the Aduma use, these two tribes being practically the same except in their pursuits, the former being the bush people and the latter the river people.

The physical description of these two pygmies is as follows:—Likinga, male. Age, 25–30. Height, 4 feet 7½ inches. Chest, 29½ inches. Head, mesati to brachy. Face, broad. Head, high. Prognathism, medium. Forehead, medium high, broad and not receding. Eyes, medium apart. Chin, medium. Nose, flat but not very broad. Ears, small and not outstanding. Lips, thin. Teeth, good; two incisors out top—the outer ones. No hair on face, a little on legs. Complexion, brown. Build, slight. Trunk compared with legs, long to medium. Shoulders; medium slope. Thighs, medium. Calves, thin. Tattoo cuts on upper arm, and a design on the belly.

Tsaka, female, differed in following particulars from Likinga:—Height, ½ inch less, but chest ½ inch more. Face, less broad. Some of her teeth filed. No hair on body. Trunk shorter in comparison with legs than her brother. Complexion fairer than brother's. Tattoo cuts on chest, left arm, belly and back.

For clothing they had the smallest of pieces of cloth possible passed between their legs and hung over a cord round the hips. It was cotton cloth, however, and not raphia.

Likinga gave me the numerals, which were pure Awanji, but in the first attempt he went wrong after six. I went into the question of a language of their own, but they said all their ancestors had always spoken as now, so they evidently knew of no other. In this respect they differed from what a Fang-speaking Pygmy, whom I saw at the Mission, near Boue, told me, though the latter would probably mean no more than that recently his ancestors had come under Fang influence, and with it adopted the language. Likinga said that once he had been as far as Boue, and knew of the Pygmy there, but I gathered he had not actually seen him. I inquired carefully because I was very keen on knowing if they had a means of communication independent of the Awanji or Fang languages, which are very different.

They said that the Babongo were in this country before the Bawanji, which, if so, opens up a big linguistic question. They said they could not drive the Bawanji away if they wanted to; the latter were too strong.

The Babongo may have as many as two or three wives. It depended on the man's being able to pay the head-money, which amounted, in goods, often to 100 francs. Cloth, pots, knives and a miscellaneous assortment of things were included in the payment. Some men had no wives. I could not gather that it was because women were scarce, but it seemed to be because they could not pay the head-money. They get their money or goods by trading in bush-meat with the Aduma. They sell meat to other tribes, and are not attached to the Bawanji or Aduma alone.

This woman had had one child, but it died.

As to mixed marriages, the Bawanji take Babongo women, but the children belong to the father. Sometimes the woman returns to her tribe, in which case she leaves the children. They also marry with the Bangomo (i.e., Bakele). Babongo women marry Bakele men, and Bakele women marry Babongo men. The Bakele

women occasionally go and see their relations for a short time, but come back to their husbands. As to the children of Bakele women, the girl remains Bakele, but the boy remains Babongo.

It would seem, therefore, that the total absorption of the Pygmies in this region is merely a matter of time, and the absorption will be as complete as it has been behind Sierra Leone, Liberia and the Ivory Coast.

It is to be noted that the Pygmies on the Upper Ogowe are called Babongo, while those near the sea are called Beku. I saw some of both tribes, and found them very distinct in appearance.

A Babongo woman in child goes about as usual, but when the infant is born she is kept indoors three months, and other women bring food. The father names the boys, the mother the girls. Before marrying age the boy is given a new name. For instance, Likinga's baby name was Chokati. The husband gives a new name to the girl when he marries her. Tsaka's (she pronounced it nearly Taka) baby name was Bashega, and the name Tsaka was given her by her husband.

The Babongo spend their time hunting, but Likinga said there was not much game in the bush, and no elephants. He used the bow. I showed him a Fang cross-bow which I had. It interested him very much, and he evidently had not seen one before. The women make the cassava farms, and the site of the plantation is changed every year. This farming indicates that they are assimilating to the other tribes among whom they live. They use cutlasses for planting and cutting, and do not seem to have hoes any more than the other tribes, who are all without them. The hoe means too much hard work. They eat fish when given them, but do not catch fish themselves, as they say they do not know how to make thread. If they find dead meat in the bush they will eat it. They cook in earthenware pots made by the women. They make mats of bark and fibre. The Bawanji taught them. They always make a fetish ceremony before going to hunt to ensure good luck. Men and women may eat the same, with few exceptions. Snakes and crocodiles women do not eat. Some men do not eat gorillas. If a gorilla kills a man, he leaves him on the ground. Likinga was emphatic that gorillas do not eat flesh of any kind, but live exclusively on fruits of the bush, or bananas in a plantation. They, however, bite a man in killing him.

When a Babongo dies, he is buried in the bush, laid straight out and protected with mats. Everything in the house is put in the grave. The funeral dance is held by day as well as by night. The relatives smear themselves with white clay, but the dancers do not. They merely oil their bodies. Bonji takes the dead man's spirit away. This word for God is used by many tribes in this region. The Babongo have string instruments and drums, but not wind instruments.

This is the summary of the conversation through an interpreter.

F. W. H. MIGEOD.

British Isles: Craniometry.

Parsons.

The Cephalic Index of the British Isles. By F. G. Parsons, *F.R.C.S., F.S.A.*

14

The cephalic index is so often quoted and used by Anthropologists that the accompanying list of the records which I have been able to collect may be of value to those engaged on craniological work.

I need only preface it by saying that all the records are those of adult males, since there is reason to believe that the female head has a rather higher index than that of the male (Parsons and Lucas Keene, *Journ. Anat.*, Vol. LIV., p. 58).

Since some of the measurements were made on living heads and some on dry skulls, the cranial indices of the latter have been converted into cephalic indices by the addition of 8 mm. to the length and breadth, to allow for the absent soft parts.

RECORDS OF BRITISH CEPHALIC INDICES.

—	No. of Records.	Index.	Maxiroal Length.	Maximal Breadth.	Length and Breadth.	—
Long Barrow . . .	37	725	<i>Ancien t.</i> 204	148	352	Macalister (quoted by Macdonell, <i>Biometrika</i> , Vol. 3, p. 192).
Long Barrow . . .	20	725	204	148	352	Parsons (<i>J. Anth. Inst.</i> , Vol. 51, p. 55).
Long Barrow . . .	16	757	198·6	150·4	340	Schuster, <i>Biometrika</i> , Vol. 4, p. 351.
Reund Barrow . . .	36	767	188·6	144·8	333·4	Schuster, <i>Biometrika</i> , Vol. 4, p. 351.
Beaker Folk (Bronze Age).	15	832	190	158	348	Wright (E. Yorks.), <i>J.</i> <i>Anat.</i> , Vol. 38, p. 119.
Beaker Folk (Bronze Age).	13	855	187	100	347	Reid (N.E. Scotland).
Beaker Folk (Bronze Age).	8	830	188	156	344	Parsons (<i>J. Anth. Inst.</i> , Vol. 43, p. 550).
Iron Age (Celtic British).	23	742	104	144	338	Wright and Greenwell (N.E. Yorks.), (<i>Archæo- logia</i> , Vol. LX., p. 251.
<i>Mediæval.</i>						
Saxon, Canons . . .	8	750	198	150	348	Rolleston.
Rothwell, Northants. (14th and 15th cen- turies.)	100	773	194	150	344	Parsons (Crypt of Church), <i>J. Anth. Inst.</i> , Vol. XL., p. 483.
Dover (14th century) -	12	782	193	151	344	Parsons (Crypt of former St. Peter's Church).
Upchurch, N. Kent (14th century and later).	16	792	192	152	344	Parsons (Crypt of Church).
Hythe (14th and 15th centuries).	322	812	187	151	338	Parsons (Processional of Church), <i>J. Anthrop.</i> <i>Inst.</i> , Vol. 38, p. 419.
<i>Modern.</i>						
<i>17th Century.</i>						
Whitechapel . . .	135	755	197	148·7	345·7	Macdonell, <i>Biometrika</i> , Vol. 3, p. 192.
Moorfields . . .	42	766	197·1	151	348	Macdonell, <i>Biometrika</i> , Vol. 5, p. 86.
<i>18th Century.</i>						
Claremarket . . .	30	765	196	150	346	Parsons, <i>Lancet</i> , 20th April 1918.
Scots Soldiers . . .	0	737	197·5	146·5	344	Parsons, Army Medical Museum, Millbank.
Irish Soldiers . . .	29	754	190	150	349	Parsons, Army Medical Museum, Millbank.
English Soldiers . . .	42	764	195	149	344	Parsons, Millbank Museum.
<i>19th and 20th Centuries.</i>						
Highlands and Islands	0	740	197	147·6	344·6	Turner, <i>Tr. R. Soc. of Edin.</i> , Vol. XL., p. 3.
Plynymmon Moor- land.	27	754	199	150	349	Fleure and James, <i>J.</i> <i>Anthrop. Inst.</i> , Vol. 46, p. 35.
Glasgow . . .	505	755	195·8	147·0	343·7	Matthew Young, <i>Tr. R.</i> <i>Soc. of Edin.</i> , Vol. LI., p. 348.
Renfrow . . .	11	762	198	150·8	348·8	Turner.

	No. of Records.	Index.	Maximal Length.	Maximal Breadth.	Length and Breadth.	
Highlands . . .	55	704	190.5	152.5	352	Beddoe, Races of Britain 1885.
Arran Isle . . .	4	706	201	154	355	Haddon.
Berwickshire . . .	30	767	199	152.5	351.5	Beddoe.
Wiltshire . . .	55	768	195	150.1	345.1	Beddoe.
W. Somerset . . .	71	768	192.0	148.3	341.2	Beddoe.
Denbighshire Upland .	51	770	190.5	150.2	341	Fleure and James.
Arran Isle . . .	27	771	197	152	349	Haddon.
Shetland . . .	5	771	198.4	153	351	Turner.
W. Montgomery . . .	100	772	192.2	148.3	340.5	Fleure and James.
S. Cardigan . . .	58	773	198.2	153.3	351.5	Fleure and James.
Inishboffin (Galway) .	5	773	194	150	344	Haddon.
Munster . . .	40	774	190	151.5	347.5	Beddoe.
Educated Scots . . .	20	774	201.5	156	357.5	Beddoe.
R. Engineers . . .	118	775	194.0	151.1	346	Pearson, <i>Biometrika</i> , Vol. 8, p. 131.
Cumberland and Lancs.	10	775	104	150.5	344.5	Beddoe.
S.E. Carmarthen . . .	84	775	106	152	348	Fleure and James.
Gloucestershire . . .	77	776	103.8	150.3	344	Beddoe.
Bristol Hospital Pa- tients.	80	770	194	150.7	344.7	Beddoe.
Midlothian . . .	16	777	107.6	153.4	351	Turner.
N. Chilterns (1920) .	200	777	195	151.5	346.5	Bradbrooke and Parsons.
St. Thomas's Hospital Patients.	150	777	103	150	343	Parsons.
King's College and Middlesex Hospital Teaching Staff.	88	777	107	153	350	Gladstone.
E. Somerset . . .	94	777	103	150	343	Beddoe.
Tregaron (Cardigan) .	34	778	198	154	352	Fleure and James.
Kerry . . .	20	778	197	153.1	350	Beddoe.
Cornwall . . .	17	779	194.5	151.5	346	Beddoe.
King's College and Middlesex Hospital Students.	457	770	195	152	347	Gladstone.
Edinburgh Dissecting Room.	32	770	192.6	150	342.6	Turner.
British Soldiers (1919)	124	780	191	149	340	Parsons.
S. Wales . . .	00	780	103	150.5	343.5	Beddoe.
Cambridge Dissecting Room.	120	780	194.3	151.5	340	Duckworth.
N. Devon . . .	56	780	195	152.1	347	Beddoe.
Oxford Undergraduates	050	78.02	196.05	152.84	349	Schuster.
British Association . .	?	782	108.1	155	353	Lec.
University College Staff.	25	782	100.4	153.5	350	Pearson.
Yorkshire . . .	11	782	193.5	151.5	345	Beddoe.
Educated Englishmen	40	782.5	198	155	353	Beddoe.
S. Devon . . .	42	783	192.8	151	344	Beddoe.
British Criminals . .	3,000	785	191.7	150.4	342	
S. Somerset . . .	32	785	191	150	341	Beddoe.
E. of England . . .	30	786	192	151	343	Beddoe.
St. Thomas's Hospital (1910-19) Students.	153	787	193.4	152.3	345.7	Parsons.
British Anatomists, Dublin Conference 1907.	20	701	197.7	150.3	354	Brown.
Ardudwy . . .	113	702.6	192.7	152.7	345.4	Fleure and James
Cambridge Undergra- duates.	1,000	706	193.5	154	347.5	
Newquay (Cardigan) .	18	798	195.5	155	340.5	Fleure and James
E. Lothian . . .	10	812	191	155	346	Turner.
Fife . . .	12	816	193	157.6	351	Turner.
Gt. Cleft, N. Wales . .	131	819	193.5	158.5	352	Fleure and James.

The foregoing list is given for what it is worth, and no doubt is open to a good deal of criticism; indeed, the more it is criticised the better it will be for our future work.

In the first place there is an undoubted overlap in the Long Barrow skulls. Macalister measured between 37 and 54 of the Thurnham collection at Cambridge, being able to get only one measurement in several skulls: while Schuster recorded 16 of the Rolleston collection at Oxford. The 20 skulls which I measured were those of both these series which had faces attached, as well as a few more from other parts of the country, since I was more interested at that time in the faces than the crania.

As a matter of fact, I got exactly the same results as Macalister; but Schuster's records warn us that the real Long Barrow average may be a little higher, perhaps about 735. There can be little doubt, however, that we are now very close to the average index of British Long Barrow male heads. It will be well to emphasise once more that in this paper all the dry skulls have had 8 mm. added to their length and breadth for the soft parts.

In the Bronze Age Beaker folk, Wright, Reid and I are very close in our records, and it seems pretty certain that this race had an index some ten points higher than that of the Long Barrow people.

The difference between Schuster's Round Barrow skulls and these is accounted for by the practical certainty that in the Round Barrows are usually found Beaker folk and Long Barrow people buried together, and Schuster's results are obviously and intentionally a record of the two combined.

The Anglo-Saxon record is appreciably higher than that of the Long Barrow and lower than that of the Beaker folk. We have no records of pure Nordic skulls in Great Britain, but if we refer to Retzius's "*Crania Suecica Antiqua*" we find that those of the Stone Age have a cephalic index of about 760, those of the Bronze Age of about 750, and those of the Iron Age of about 748. It seems, therefore, that the Anglo-Saxons were rather rounder headed than the Swedish vikings of historic times, and this is probably accounted for by a greater mixture with mid-European brachycephals while they were still on the Continent.

In the mediæval period the skulls at Rothwell probably approach the average of the Midlands in the fourteenth century, but the Kentish skulls of the same date point strongly to a considerable influx of Continental round heads, which reaches its maximum at Hythe. It should be mentioned that women's and children's skulls are quite numerous at Hythe, and just as round as those of the men, so that we need not invent a great battle to explain them.

In the seventeenth and eighteenth centuries the three London series of Whitechapel, Moorfields and Claremarket are very valuable, and the results agree with one another wonderfully well; they have an average index of about 760, and this is again supported by the English soldiers' skulls of a little later date at Millbank. Apparently the average head shape of England altered very little between Saxon times and the eighteenth century: that little being a rise of about one point, probably due to immigration from the Continent, one wave of which we have traced at Hythe.

The head shapes of the nineteenth and twentieth centuries point to a further considerable rise in the index, as the number of records in the list between 770 and 780 shows. It is interesting to notice that, while the British soldier of the eighteenth century averaged 764, those of the late war were 780; and that while the average Londoner of the seventeenth century was 760, the present patients in St. Thomas's Hospital are 777. Any one of these results, taken alone, may be regarded with suspicion, but when they corroborate one another the cumulative effect is by no means negligible, and we have to decide whether the English head has altered its

shape in the last two centuries owing to some change in environment which has only lately become active, or whether we shall be content with the more prosaic explanation that the last two centuries have seen a great increase in the facilities of locomotion and a consequent increase in the numbers of round-headed Poles, Germans, French, and Swiss, who have been able to use our country as a refuge and new home. Personally I think the latter explanation is all we need, but there are those who hold that education broadens the head as well as the mind, and I am bound to admit that most of the series of teachers and students and learned assemblies are well up in the list—particularly the Cambridge undergraduates, who, in this inter-University competition, have beaten their Oxford competitors handsomely. But even if we grant that the more academic people have the broader heads it does not follow that education has done it, for it may well be that those people who have the broader heads are more desirous to use their energies in academic pursuits, and are more amenable to scholastic and sedentary restraint.

We evidently want more evidence on these points, but I think that when we come to head size, as shown by the sum of the length and breadth, it is pretty evident that the academic people have the advantage. The cephalic index takes no account of head height, which of course is a serious loss, but if we use the material we have and add the lengths to the breadths of the heads of the presumably more intellectual groups, such as University and King's College staffs, the British Association, British anatomists and educated Englishmen and Scotsmen, we find that they always give an average sum reaching or exceeding 350, the educated Scots heading the list with 357.5, while in the other records it is quite exceptional to find the 350 limit reached.

The record of the 3,000 criminals is interesting and probably justifies the trouble taken over them. Their cephalic index of 785 is quite high when compared with the 777 which Beddoe got in the Bristol Infirmary and I in St. Thomas's Hospital patients: two sources whence a fairly representative sampling of southern England should be expected. It suggests that our recent immigrants from central Europe have contributed even more than their fair share to British crime. On the other hand, the size of their heads, as indicated by the sum of the length and breadth, is only 342, which is very low indeed.

Our records do not give us any reason for thinking that the size of the modern Englishman's head is increasing with its increasing rotundity; in fact, both the Saxons and Long Barrow folk, from the fusion of whom most of our blood is derived, seem to have rather larger heads than the average modern Englishman, and there is no reason to believe that they were larger men physically.

Many other suggestive hints for further inquiry may be drawn from this list, but I have not space to notice all that occur to me; of course, although it contains several thousand records, it is only picking at the ground where a population of 40 millions is concerned, and no doubt too it is only approximately accurate. Where so many observers are involved the personal equation is sure to be there; indeed, in some places, glaring discrepancies need accounting for—such as the enormous difference in the records of the Oxford and Cambridge undergraduates. Possibly a mistake in the arithmetic has crept in; but, if not, it would be very interesting to learn whether Cambridge still keeps up her average index of 796 while Oxford is only 780.

Personally, I think that, in spite of inequalities which may be explained later on, the list justifies the labour which so many observers have given to it, and that, with more help, we may fill up the gaps and make it much more complete and useful.

F. G. PARSONS

Papua: Betel.

Chinnery.

Piper Methysticum in Betel-Chewing. By E. W. Pearson Chinnery.

15

In the Mambare and Kumusi divisions of Papua three important substances are used in betel-chewing—*dang* or *cha* (the betel-nut), *ong* (lime), and *pingi* (*Piper methysticum*). *Dang* or *cha* is the nut of a species of areca palm, which is extensively cultivated by the Binandere-speaking tribes of the coast and the lowlands of the interior. It is similar to the cultivated *buatau* (pidgin Motuan) of other coastal regions. *Ong* is obtained by burning river shells in kilns. A layer of shells is placed between each layer of midribs of the nipa palm, and the kiln is lighted from the top; it burns downwards and deposits the burnt shells in a heap among the ashes, from which they are afterwards separated and reduced to powder by pounding. So far as I can remember, one of the betel peppers is a cultivated creeping plant, which clings to trees in the gardens and villages. The late Rev. Copland King, in his MS. dictionary and grammar of the Binandere language, identified *pingi* as *Piper methysticum*. Sir William McGregor in *Annual Report*,



BINANDERE NATIVES REDUCING THE BURN'T SHELLS TO POWDER-LIME FOR BETEL-NUT CHEWING.

British New Guinea, 1896-97, p. 31, referred to the occurrence of *Piper methysticum* in gardens on the Gira River, Mambare division.

The leaf, fruit, part of the stem bark, and root of plants known as *pingi* are chewed by the local natives with betel-nut and lime. I have repeatedly noticed the effect of this mixture on both men and women. The eyes assume a dull, vacant stare, and the person indulging soon becomes temporarily stupefied and incapable of intelligent effort, a condition known in the language of the Motuans as *kava-kava* (a word which is also used to describe drunkenness or foolishness). The mixture dribbles from the lips, or is sprayed by the mouth over the floor or walls of the house, and often the chewer rolls it into the form of a ball with his tongue, and not infrequently takes it into his hand and puts it back again with evident relish. The whole attitude is one of dreamy ecstasy. I once tasted *pingi* and found its flavour bitter and hot; it stimulated the salivary glands for some time afterwards, and left a swollen, numbed feeling in the tongue and mouth.

Betel-chewing occupies a place of great importance in the ceremonial life of the Binandere. The man who has been decorated for homicide, and has attained the state known as *kortopu*, is permitted to ornament his lime gourd with beeswax and red-seeds, and rattle his lime-stick against the opening of the gourd when withdrawing it from the lime. Temporary abstinence from betel-chewing is a form of self-denial which people are at times obliged to practise. An instance of this is seen in songs of instruction during the ceremonies following burial, when widows fulfilling the obligations of mourning are forbidden, among other tabus, to eat the betel mixture or even desire it. The phrases of the betel-chewing tabu are—

Dang ta ge go Lorie!

Betel-nut of speak not widow.

Pingi ta ge go Lorie!

Betel-pepper of speak not widow.

Another instance of the ceremonial importance of betel-nut (in this case the wild variety) was observed by me on Mount Chapman. There I was informed that tribes usually at war with one another congregate peacefully during initiation ceremonies. The symbol of this temporary truce is a piece of broken betel-nut (*ve*, the wild variety of areca), which is distributed among those gathered together by the givers of the ceremony. The ceremony finished, all who have participated return to their districts and the truce ends. In this district I was informed that lime is procured from the many limestone caves which occur in the locality, and carried in leaves, gourds being absent.

The use of the *pingi* plant, as part of the mixture of betel-chewers, has an extremely wide distribution in Papua. On the watershed of the Kiko River, M. Staniforth

Smith (*Annual Report*, British New Guinea, 1911, p. 170) found a kava plant, *Macropiper methysticum*, in a native garden, but saw no evidence of the manufacture of the beverage. Wilfred N. Beaver noted the occurrence of betel-chewing in the same region. Possibly here, too, it is part of the betel-mixture.

While conducting expeditions among the hostile people (*Kiko-Kairi*) of the lower bush region of the Kiko, I frequently had occasion to reprimand my police for chewing betel-nut with a plant which they had found in the native gardens



MAMBARA BAY. BINANDERE NATIVES BURNING SHELLS IN A KILN OF "NIPA" PALM TO MAKE LIME FOR BETEL NUT CHEWING.

and villages in the vicinity. On one or two occasions these police, who represented the Gulf, Central, Eastern, North, and Western Division of Papua, managed to obtain such plant without my knowledge, and if it had not been for the marked effect it produced in them I should not have detected its presence. It appeared to be well known to all of them (excepting those from Mount Victoria (*Biagi*), who are not betel-chewers) and in the *lingua franca* of the police (pidgin Motuan) was known as *paw-paw*.

The leaf, fruit, and portions of the stem and root were found hidden in their swags, neatly coiled and tied together like a bolt of rope. This plant was known to the Binandere police as *pingi beaimana* (excellent *pingi*).

At other times and in other places, I have heard the Binandere police describe a plant obtained as *pingi beai* (inferior *pingi*).

It would appear from the evidence collected by Dr. A. C. Haddon (MAN, 1916, 10) and my observations, that the use of *Piper methysticum* (if my authorities for the identification of the plant are reliable) is widely distributed throughout British New Guinea (Papua). Its preparation as a beverage (*gamada*) appears to be confined to districts in the Western Division, where betel-nut chewing is not a practice; but in many districts, where betel-nut occupies a prominent place in ceremonial life, it is one of the chief constituents of the betel-chewing mixture.

Here I must remark that among the police whom I have had occasion

to reprimand for over-indulging in betel-nut, combined with the plant known to the Binandere as *pingi*, were natives from the Fly River district in which the beverage (*gamada*) is drunk.

It is the object of this short paper to point out a connection between the use of *Piper methysticum* and betel-chewing in British New Guinea. It

seems probable that the betel pepper, known to the betel-chewers as *pingi* (Binandere) and *paw-paw* (pidgin Motuan) is *Piper methysticum*, or varieties thereof. Such plants, as well as varieties of the areca palm, grow wild in the forests, and on occasions when the cultivated nuts and plants cannot be procured, the chewers frequently partake of the wild varieties. But not without a contemptuous protest in "pidgin Motuan," such as follows:—

Hari ita kunika-taudia bamona karai-ia.

Now we people-of-the-bush resemble perform.

Uda-buatau, udu-paw-paw dika-ora.

Bush betel-nut, bush pepper, not nice.

The betel-chewer, when starting on a journey, invariably carries in his netted bag a supply of betel-nuts and a gourd filled with lime, but he does not appear to stock himself with pepper in the same careful way. His appearance in the village he is visiting is a signal for someone to dash away to the outskirts and reappear in a few moments with a coil or stalks of the pepper plant. He accepts this as a matter of course, and frequently gives betel-nuts in return; others gather around, and in a few moments all of them are chewing and talking with evident enjoyment.



In some of the mountain districts visited by me, betel-chewing is not known. Chief among these are the Biagi districts of Mount Victoria. But the influence has spread far inland in other parts, though in the mountainous regions the betel-nut palm is seldom cultivated, and the habit is not so much in favour as it is on the coast. Evidence of this is shown by the white teeth of the inhabitants, and the frequent absence of lime gourds in mountain districts.

It would appear that betel-chewing is a relatively late influence. Kava (*gamada*) drinking has been prohibited by the Government, and betel-chewing is gradually extending among the tribes in the Fly River districts which formerly drank *gamada*, but whether or not the presence of *Piper methysticum* in other localities than the west suggests that at one time there was a wider distribution of *gamada* drinking, which has been superseded by betel-chewing, must be left for further investigation. Further evidence is also required to show whether the constituents of the betel pepper, leaf, fruit, stem, and root, belong to one plant or a variety of plants, and, if the latter, which is *Piper methysticum*.

E. W. PEARSON CHINNERY.

Mexico: Archæology.

Maudslay.

A Note on the Teocalli of Huitzilopochtli and Tlaloc. By A. P. Maudslay.

16

At the time of the meeting of the Congress of Americanists in London I published a note on the Position and Extent of the Great Temple Enclosure of Tenochtitlan (Mexico), and the Position and Orientation of the Teocalli of Huitzilopochtli. I have lately received a letter from Don Manuel Gamio, the head of the Department of Anthropology in Mexico, who has been in charge of certain excavations in the city, from which the following is an extract:—

"There is no doubt whatever that the temples and shrines were those of Huitzilopochtli and Tlaloc, for, in addition to the theoretical proofs which you advanced in respect to the orientation of the temple in your treatise published in 1912, I have met with a part of the three first storeys of the pyramid and part of the stairway, one of the serpents' heads which terminated the said stairway, the pavement of slabs of polished stone, as well as the (fallen) parapet of the temple of Tlaloc in the shape of pointed shells, and the stone skulls which were inlaid on the Temple of Huitzilopochtli, etc.

"It has given me great satisfaction to have had the honour to prove that your interesting investigation was exact, as the discoveries which have been made afford proof."

I may add that the site of the Teocalli is now entirely covered by modern streets and houses.

ALFRED P. MAUDSLAY.

Europe, Western: Religion.

Peake.

Horned Deities. By Harold Peake.

17

In his article, "A New Find in Palæolithic Cave Art" (MAN, XXI., 108), Mr. Miles Burkitt refers to the old Gallie god, Cernunnos, though without arguing that there is necessarily a connection between this deity and the Sorcerer depicted in the cave of Trois Frères; it may, therefore, not be out of place to examine more fully what is known about this Gallie deity.

In his Hibbert Lectures on Celtic Heathendom (pp. 77-99), the late Sir John Rhys dealt at considerable length with the deity he termed the Celtic Dis. He

describes an altar, dug up in Paris, on which was portrayed a seated figure, clothed and bearded, from whose head grew two *stag's antlers*, on each of which hung a *torque*, above which was the name Cernunnos. Sir John equates the name with that of Jupiter Cernenus, mentioned on a wax tablet found at Pest, and the figure with others discovered at Rheims, Saintes and Vendœuvres-en-Brenne. The Rheims monument represents a *horned god* squatting between Apollo and Mercury, holding a bag from which he pours acorns and beech-mast to an ox and a stag. The stone from Saintes has a group on either side; in each case the god is squatting, and, though no horns appear, he holds a purse and a *torque* in either hand; on one face of the stone is represented a female, sitting near him and holding a cornucopia. I have been unable to find a description of the monument from Vendœuvres.

Sir John thinks that this must be the *Dis pater*, from whom, according to Caesar, the Gauls claimed descent; if so, he was also the god of the dead. He also suggests an equation with the Teutonic Heimdal, the ancestor of the Amals, and, as father of Rig, of all men, who struggled with Loki for the *Brisinga necklace*. He sits on the rainbow, but has no horned associations.

Now an anonymous writer in the *Quarterly Review*, No. 392 (1902), pp. 462-482, contributed a suggestive article entitled "The Evolution of Harlequin," whom, we must remember, is always a *masked* character. He cites that in "*Arlequiniana, &c.*" (Paris, 1694), there is an illustration of harlequin with a black *mask* concealing his face; but the name is much older, appearing in Italy as *Arlecchino* about the middle of the sixteenth century, and is probably derived from the older form "*alichino*," which occurs as the name of one of the ten demons in Dante's *Inferno*.

But similar names attached to evil spirits are widespread; they crop up in France under the forms of herlequin, herlekin, hierlekin, hellequin and hellekin, while harlican is used in Dorset for an impish child. In old French legends he signifies the leader of the dead, while in the thirteenth century "*La maisnie Hierleken*" or "*La maisnie Helequin*" signified a group of ghosts who rode abroad like a cavalcade of wild huntsmen. Ordericus Vitalis in his "*Historia Ecclesiastica*" writes that such a cavalcade was seen in the beginning of January 1091, which, he said, was doubtless "*Herlechin's troop*" (*familia Herlechini*). Walter Mapes says: "the night wandering troop, which were called Herlethings, appeared down to the time of our sovereign lord Henry ii," and were last seen on the borders of Wales and Hereford in the first year of that monarch's reign. It seems likely that in the latter region the myth has survived to our own time, though its leader has been identified with Edric Streon, the wicked earl; but may not the wicked earl be really the wicked Herle? Again in Windsor forest our friend seems to have become Herne the hunter, while on Dartmoor he has been identified with Sir Francis Drake.

At the close of the eleventh century, therefore, Herlequin was the personification of death, leading a shadowy band of huntsmen. Some have derived the word from the Teutonic Hela or Hel, the personification of the home of the departed, while Professor Skeat has suggested its derivation from Helle-kin, "the tribe of hell." We seem here to be on the track of a cult similar to that of Cernunnos.

Our anonymous author identifies this wild leader also with the Erl-king, which, though a late importation into Germany, seems to be primitive folklore in Denmark; and, still further afield, with the "Erlík-khan" or "Aerlík-khan," who is feared by Tartars, Mongolians and Tibetans. This deity, who has been identified by Grünwedel with Yama, the Indian god of the underworld, one of the most conspicuous deities of the Vedic pantheon, is depicted in Mongolian art as a *masked* figure, with lofty *horns*. Here, then, at the end of the chain we have features resembling Cernunnos and the Sorcerer.

One word as to the female associate at Saintes, who holds the cornucopia. Some years ago, Professor Flinders Petrie (MAN, 1917, 104) endeavoured to show that the female figure in relief on the limestone rock at Lausell, in the Dordogne, which must be more or less co-eval with our Sorcerer, and which also holds a cornucopia, was the predecessor of a deity found from Thrace, in the time of Strabo, to North Russia, at the present day. The case for the survival of the Sorcerer seems equally strong. The occurrence of both on the monument of Saintes seems to strengthen both hypotheses.

HAROLD PEAKE.

REVIEWS.

Africa, East: Ethnography.

Roscoe.

Twenty-five Years in East Africa. By John Roscoe, Cambridge University Press. pp. ix. & 288. 25s. net.

18

This is a popular account of Mr. Roscoe's travels as a missionary in East Africa. It differs from most books of this kind by pointing out impartially the many disadvantages resulting to the natives from the disappearance of old customs and the introduction of European civilisation. The pagan Baganda were noted for their remarkable sexual morality; the abolition of polygamy has produced a state of affairs which is quite the reverse. Huge tracts of land, which in olden times were one continuous garden, have been abandoned and become a wilderness because the women who, as wives, would have attended to their cultivation, have now forsaken honest work and live an immoral life. The typical hospitality of the negroes has disappeared.

After giving a short account of the Baganda, the author gives an account of his observations among the various tribes of the neighbourhood he visited in the course of his duties and on his vacation tours. Ankolo, Budu and Koki are described, and there is an interesting account of the lake-dwellers of Lake Kioga. It appears that the forefathers of these people lived originally on the banks of the river, but were obliged by the continuous attacks from more bellicose neighbours to take refuge on the floating houses erected on the papyrus of the lake.

Mr. Roscoe failed to meet the reported cave-dwellers of Mount Elgon and, from information volunteered by the natives, comes to the conclusion that the caves were only used as refuges in case of war, and not as permanent habitations. The Bageshu of this region are cannibals, and from what the author reports it seems to me that they practise anthropophagy in a similar way to some of the Luba tribes on the Lualaba. There every village has its own man-eaters, old men, whereas among the Bageshu it appears that it is the aged members of the gentler sex who indulge in this habit; the rest of the inhabitants do not participate. I share Mr. Roscoe's impression that these feasts are purely ceremonial.

It is a pity the author should tell the sordid tale of what he calls (p. 113) the "French and English War" over again. It has been told too often by both sides. Is it not possible that, after hundreds of thousands of British and French soldiers have died side by side, the squabbles of a few missionaries should be forgotten?

E. TORDAY.

Sociology.

Müller-Lyer.

The History of Social Development. By Dr. F. Müller-Lyer. Translated by E. C. Lake and H. A. Lake. With an Introduction by Professors L. T. Hobhouse and E. J. Urwick. London: George Allen and Unwin, Ltd.

19

The anthropology on which this book is based is precarious, and one has a temptation to dwell on the astonishing number of blunders and misconceptions rather than on the author's dexterity in making use of material that was clearly,

in the main, unfamiliar to him. The translators have not shown an equal skill, and for some, at least, of the more arresting errors they are obviously responsible. In any case, the author certainly overestimated his powers of assimilation, and he failed to realise that no science—not even anthropology—can be treated as a literary pursuit with impunity.

Only a very few instances can be given here of the erroneous and misleading statements that are strewn throughout the book, and it may be left to the reader to distinguish between the vagaries of the author and those of his translators.

Of the chimpanzee we learn that he "builds himself a little hut out of tree-trunks which is very similar to that of many savage men." It seems probable (though it is not stated) that it is in such log-cabins as these that apes meet to devour the oysters which, we are told, they "open" with stones.

"Some hunter races in Australia, who are also quite efficient cattle-breeders, keep dogs for the purpose of slaughtering them and consuming their flesh." What races, whose cattle, and which slaughters what?

Of weaving we learn that "South and Central American Indians, having arrived at stretching the threads by means of the spindle, have advanced to hand-weaving with chains and small balls." If it were not irreverent, one might suggest daisy-chains and puff-balls, which would enliven, without confusing, the description.

The artistic work of the Cave-men of Western Europe is treated with a blend of innocence and scepticism which seems out of place outside the Law Courts—"on mammoth bones marks have been found, which, if they are genuine, give evidence of artistic skill and keen observation." On the other hand, the "inter-tribal trading" of palæolithic man is accepted on the evidence of discoveries of "jade hatchets . . . which unquestionably must have been imported from a great distance." By means, no doubt, of an early type of Time Machine.

Since the author bases his primitive sociology on material culture—laboriously quarried from the older literature—there is no need to discuss further the insecurity of his foundation. He achieves simplicity by suppression, and is never at a loss for an improvised generalisation.

Anthropology is not the only sufferer in this book. There are excursions—and alarms—in other directions, but space will not permit of further quotation. Physicists may, however, be glad to know that the speed of light, like the cost of living, is alleged to have gone down, since it is given as 48,000 miles a second. Mistakes in spelling are not wanting (*e.g.*, Tyler, Lyle, Crole, Wiedersham); and the word amalgam is in one place used instead of alloy.

There is no index, but the table of contents is so lavish, and the author is so riotously systematic in the text, that one scarcely misses it.

It may seem unfair to condemn a book on sociology because of its flaccidity in other subjects, but the virtue of this work is supposed to reside in its correlation of the phases of human culture, and a primary requirement of such a book is accuracy. Naturally enough, the book contains much that is interesting and even attractive. It is a motion-picture of human progress taken from one point of view; but the light flickers, the film is full of holes, and there is much repetition.

In conclusion, attention may be drawn to an instructive observation which occurs on page 320:—"If culture is to progress, it must subjugate all nations that oppose it, advancing over their dead bodies." One needs no further definition of the causeway of Kultur.

H. S. H.

Technology: Time-Reckoning.

Nilsson.

Primitive Time-Reckoning. By Martin P. Nilsson. 384 pp. Lund, 1920.

20

This "study in the origins and first development of the art of counting time among the primitive and early culture peoples" has required a vast amount of research by the author. He says in his preface that he was led to undertake the work "from a desire to prepare the way for a clearer view of the initial stages of the Greek time-reckoning, for which there is extremely scanty material." In the spring of 1914 he wrote an article for the projected *Lexicon* of the Greek and Roman religions, on "the calendar in its sacral connections." In it emphasis was laid on the question of origins, in which religion plays a decisive part. He then considered "how a time-reckoning arose under primitive conditions and what was its nature," ransacking ethnological works and books of travel, often to no profit, and surprised how little attention had been paid, except by Sir J. Fraser, to the observation of chronological matters. Not until his book was finished did he meet with H. Webster's *Rest Days*, to which he refers the reader for further details on portions of the subjects treated, which did not enter his own plan of raising a general foundation.

In the first six chapters Professor Nilsson treats of the Day, the Seasons, the Year, the Stars and the Month, their names, distinctions and use in reckoning time, as found in many nations over the face of this globe. Names for divisions of the day vary among clockless folk from poetical expressions to lists of domestic occupations or rural labour, and sometimes in other ways. In Madagascar houses were built formerly with the length north and south, the single door and window facing west, so that the sunlight coming in at the open door after midday gave a fairly accurate measure of time. As among the Dyaks, the house served as a sort of sundial, and time was mapped out into short periods by the shadows. In Rome, Pliny says that noon was proclaimed when the sun peeped between the Rostra and the Græcostasis.

Nature's signs mark the seasons, especially where there is agriculture, and quotations from Hesiod begin a list of indications of seasons that range from the Esquimo of Labrador to New Guinea. "Seasons only become divisions consisting of a definite number of days when, in the regulation of the calendar, they are taken over as calendar divisions, as winter and summer were in Scandinavia. Where a calendar has arisen directly out of the seasons, the divisions, like the seasons, are of varying length." The uniting of the different seasons into a complete year only takes place gradually (p. 83) by selecting and systematising them. Originally the year does not exist as a numerical quantity. The difficulty of struggling through to the conception of the year is exemplified by certain peoples who know two seasons but reckon in half years without joining them together.

The chapter on Star-Lore is especially informing. Observation of the Pleiades, in connection with vegetation, is so prevalent (especially in South America and Africa) because they are easily recognized as a group. "To create constellations in which terrestrial objects, animals and men are arbitrarily seen requires no inconsiderable degree of imaginative power." Observation of the morning rising and evening setting of the fixed stars is extraordinarily widespread.

The moon is the first chronometer. Whilst the human mind arrives only gradually at the conception of a year, the month is already given by the natural phenomena. The quadripartite division of the moon's phases appears first, Professor Nilsson thinks, in Babylonia. The principle of continuous time-reckoning would be suggested by the moon. "The moon-month has originally nothing to do with the year and seasons: this must be clearly recognised. . . . It is impossible to combine the months with the year without doing violence to one

" or the other. . . . To modern civilized peoples, the moon has no immediate influence on their lives. . . . For primitive peoples it afforded the only fixed measure of the duration of time." Accordingly everywhere we find characteristic local names given to the months. There is also a curious phenomenon of pairs of months having the same name, distinguished by "big" and "little." Thus in Fiji there are three pairs. The Seminoles of Florida have four pairs, the Creeks four, the Cakchiquel of Guatemala (not mentioned here) four, the ancient Mexican calendar, two. "Travellers who have reported names have usually tried to establish a normal series of months, influenced by inherited ideas of the calendar, and this tendency has caused great loss."

The Sumerians (p. 227) had a multiplicity of month-names in several lists, but by the time of the dynasty of Hammurabi the signs of those at Nippur were used as ideographic signs of the months. Gradually selection took place and months named from festivals supplanted those named from natural factors. In Egypt, the year consisted of three seasons, inundation, seed-time and harvest, each of four months with thirty days in each, together with five additional days, standing outside the year and theoretically not included in it. When history begins in Greece, there is a luni-solar year with named lunar months in which a month is intercalated three times in a period of eight years (Oktaeteris), viz., in the 3rd, 5th and 8th years. Had this 8-year period any connection with the synodical revolution of the planet Venus, which occupies 584 days, so that five revolutions equal exactly eight years of 365 days? This revolution was of great importance in the ancient Mexican calendar. None of the time reckonings recorded by Professor Nilsson seem in any way to agree with the vigesimal system of Central America. The Maya method of dating enabled them to fix the position of a definite day over a period of 18,720 years.*

Other chapters include: the solstices and equinoxes, artificial periods of time marked by feasts, calendar regulations, and popular months of European peoples. It is to be hoped that the author may continue his researches to more remote epochs, such as that of the megalithic monuments and their orientation. A. C. B.

Linguistics.

Marouzeau.

J. Marouzeau, *Docteur ès lettres, Directeur d'études à l'Ecole pratique des Hautes-Etudes. La Linguistique ou Science du Langage*. Paris, 1921. 188 pp.—**21**
Though containing no new matter, this little book will serve as a useful introduction to linguistic science in its various aspects. The several sections deal with phonology, words in form and meaning, construction of the sentence, expression and style, the constitution, evolution and relation of languages, and their laws and history. Being intended for the general reader, most of the examples are drawn from the French language, but bibliographical notes indicate the principal French writers on the subjects of the various sections. S. H. RAY.

Linguistics.

Crabtree.

A Manual of Lu-Ganda. By W. A. Crabtree, M.A., Cambridge, at the University Press, 1921. pp. xx. & 254.—In this exceedingly well-arranged **22**
grammar and vocabulary, Mr. Crabtree has greatly extended the scholarly work of the late G. R. Pilkington in the "Handbook of Luganda." The student is now provided with a thoroughly reliable and efficient guide to one of the most important and interesting Bantu languages. S. H. RAY.

* Joyce, *Mexican Archaeology*, p. 255.



GILT BRONZE FIGURE OF PADMAPANI.

ORIGINAL ARTICLES.

With Plate C.

Tibet: Art.

Joyce.

Note on a gilt bronze Figure of Padmapani in the British Museum. By T. A. Joyce, M.A., O.B.E.

23

Plate C shows a lamaistic figure of gilt bronze, 56½ inches high, acquired by the British Museum in the course of the year 1920. It came originally from a temple attached to the Kangmar monastery near Gyantse, Tihet, whence it was taken during Younghusband's military mission in 1906. It represents a Bodhisattva in a standing position, but resting his weight rather on the right leg, the left being slightly flexed. With his right hand he forms the *vara mudra* (gesture of charity), with the left the *vitarka mudra* (gesture of argument). He bears the *urna* (the "third eye," a sign of spiritual insight) in the form of an inlaid crystal; and the *ushnisha* (the protuberance on the skull of a Buddha), over which his hair is braided in a high peak, with the exception of one lock on each side, which fall on the shoulders. In the front of the *ushnisha* is a recess, in which is seated a figure of Amitahha, the Dhyani-Buddha (Celestial Buddha) of the present *kalpa* (epoch). The *ushnisha* and figure of Amitahha are concealed by the five-leaved crown which he wears as a Bodhisattva, and on the centre leaf of which is a small stupa in relief. His other ornaments, which are jewelled with turquoise, and coloured stones or pastes, are ear-pendants in his extensive ear-lobes, necklaces, armlets, wristlets and anklets, the last being of two patterns. He wears one ring on the third finger of the right hand, with the bezel turned towards the palm, and on the palm is engraved the *cakra*, or "wheel of the law." There are three rings on the left hand, on first, third and fourth fingers respectively. He is clad in a skirt of some more or less diaphanous and clinging material, which falls in graceful folds in front and is supported by a girdle with jewelled pendants. The diaper pattern on the skirt is indicated by engraving. Attachments on the left elbow and shoulder show that in his left hand he originally held, most probably, a gilt bronze lotus, which curved upwards past his elbow and rose above his shoulder.

The figure is unusual both from its size and from its artistic qualities. It is true that the legs are perhaps disproportionately short, but the general lines of the figure, the treatment of the hands, and especially of the skirt, are unusually graceful. Apart from the crown, which is removable, the figure is in four parts, which fit together—the two lower arms with the hands, the head and body above the girdle, and the remainder of the body with the legs.

The figure may, I think, be identified with certainty from the presence of the figure of Amitahha in the headdress. This is the particular attribute of Padmapani, a non-tantric form of Avalokitesvara, the Dhyani-Bodhisattva of the present *kalpa*. It is true that Maitreya, the Manushi-Buddha (incarnate Buddha) of the next future *kalpa*, is sometimes shown in this pose, and also with the lotus. Further, Maitreya often wears Bodhisattva ornaments, since he is not yet incarnate and is therefore at the present moment a Bodhisattva, and one of his emblems is a stupa on the centre leaf of his crown. However, he does not carry the figure of Amitahha in his headdress, and this feature is quite sufficient, I think, to identify the figure under discussion as Padmapani. The connection between Padmapani and Amitahha is very close, since Padmapani is a form of Avalokitesvara, and Avalokitesvara is the fourth Dhyani-Bodhisattva. Amitahha is the fourth (and present) Dhyani-Buddha, and therefore Avalokitesvara is his spiritual emanation, whereby he created the world at the beginning of the *kalpa*.

T. A. JOYCE.

Great Britain : Archaeology.

Moir.

An Early Palæolithic Flint Implement from West Runton, Norfolk.

By J. Reid Moir.

24

In the year 1878 Mr. A. C. Savin, the well-known palæontologist of Cromer, found, embedded at a depth of about 12 feet from the surface of the ground, in a gravel bed exposed in the cliff at West Runton, Norfolk, the palæolithic flint implement described in this note. This specimen is referred to in Evans's "Ancient Stone Implements of Great Britain," second edition, p. 572, as follows:—"Many miles to the east, but still in Norfolk, there is seen in the cliff at West Runton, near Cromer, what appears to be the channel of an old river, filled up with gravelly deposits. In these, at a depth of 12 feet from the surface . . . Mr. A. C. Savin, of Cromer, in 1878, found *in situ* a fine, well-wrought ovate implement of flint $4\frac{1}{2}$ inches long." Again, in "The Fenland Past and Present" (1878), p. 536, Mr. S. B. J. Skertchly, in giving a list of the various places in England where, up to the time at which he was writing, palæolithic flint implements had been found, quotes a number of localities, and adds "as well as quite recently at West Runton in Norfolk." It may be noted here that Mr. Skertchly was of opinion that the English gravel beds containing palæolithic implements are of inter-glacial age. Finally, in "The Geology of the Country around Cromer" (*Memoirs of the Geological Survey*, explanation of Sheet 68E), p. 120, is to be found the following note, written by the late Mr. Clement Reid:—"No Post-glacial deposits occur between

"Mundesley and Runton, but
 "at West Runton Valley
 "gravels again cap the cliff.
 "Though no fossils have been
 "found, this section is of
 "special importance as being
 "the most northerly locality
 "where, up to the present
 "time, palæolithic implements
 "have been found in stratified
 "beds. In 1878 Mr. Alfred
 "Savin, of Cromer, obtained
 "at this place an axe of the
 "ordinary type—the only
 "one, as far as I am aware,
 "yet found on the Norfolk
 "coast." In the folding
 plate, at the back of the
Survey Memoir mentioned,
 appears a section of the cliff
 at West Runton, and Mr.
 Reid shows a depression filled
 with gravel, in which the
 implement was found. This
 deposit he classes as "valley
 gravel." Immediately to the
 north-westward of this im-
 plementiferous deposit is

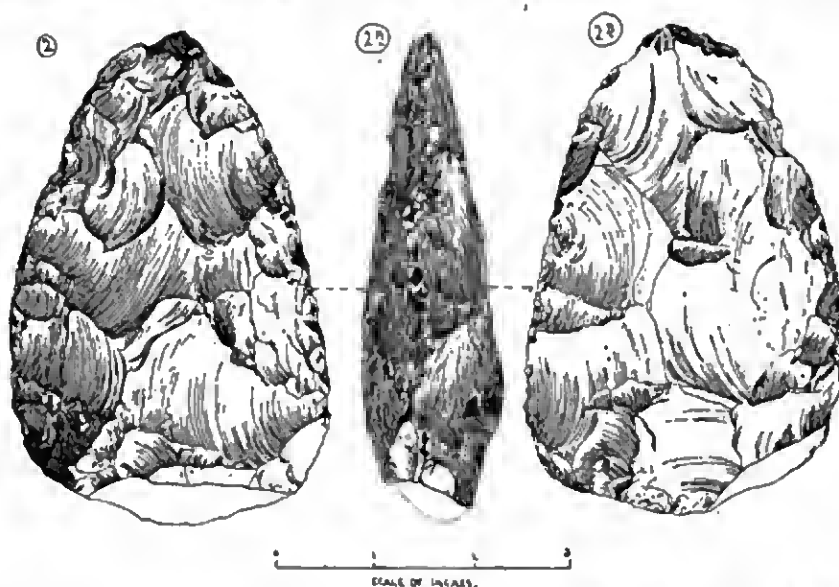


FIG. 1.—VIEW OF SECTION OF GRAVEL AT WEST RUNTON, LOOKING SOUTH-EAST. THE BASE OF THE GRAVEL IS INDICATED BY ARROW ON LEFT.

shown another and deeper hollow, also filled with gravel, and this accumulation Mr. Reid regarded as of glacial origin. It will thus be seen that, while Sir John Evans and Mr. Clement Reid looked upon the implementiferous gravel, hed at

West Runton as being apparently of post-glacial date, Mr. Skerterhly, on the other hand, regarded it as being of inter-glacial age.

In a paper published recently (*Proc. Prehist. Soc. East Anglia*, Vol. III., part 11, pp. 219-243) I mentioned Mr. Savin's specimen from West Runton, and, through the finder's kindness, I am now able to figure and describe it. So far as I am aware, this had not been done before, though, in view of the importance of the implement, this is to be regretted. The exposure of gravel where Mr. Savin made his discovery occurs in the cliff a few hundred yards south-eastward of West Runton Gap. I know the site intimately, having visited it frequently during the past eighteen months: the gravel comes in immediately under the thin capping of surface soil, and is about 15 feet in thickness. It rests upon the Contorted Drift, and, so far as my observations have gone, is unstratified. Many stones in the deposit can be seen standing on end, and this peculiarity, together with the "tumbled" appearance of the bed, would seem to point to its glacial origin. A number of erratics—chiefly quartzites—and much battered flint pebbles of a greyish colour (such as occur in



FIGS. 2, 2A, AND 2B.—THREE VIEWS OF PALEOLITHIC FLINT IMPLEMENT FOUND BY MR. SAVIN IN 1878, IN GRAVEL AT WEST RUNTON.

profusion in beds of undoubted glacial gravel in the adjacent cliffs) are to be observed in the deposit, and, towards its base, there is to be seen a sandy, loamy, and perhaps impersistent seam, averaging about 1 foot in depth. The accompanying photograph (Fig. 1) of the part of the West Runton gravel from which Mr. Savin recovered his implement, shows the surface of the gravel beneath the humus, and the base (indicated by an arrow on the lower left-hand side of the illustration) resting upon the underlying Contorted Drift. The deposits of gravel which, in places, cap the cliffs of the Norfolk coast, occur mostly, though not exclusively, in hollows in the underlying beds. And I see little reason to doubt but that this accumulation at West Runton is part and parcel of the widespread glacial gravel of the Cromer district. This deposit is, probably, of the same age as the "Middle" Glacial gravel of Suffolk (Wood and Harmer, *Quart. Journ. Geol. Soc.*, Vol. VII., pp. 19-31). I have failed to detect any fundamental difference in appearance and composition between the West Runton gravel and the undoubted glacial gravels exposed in the cliffs of the Norfolk coast, and I have failed also to notice any difference or line of

demarkation between the implementiferous gravel at West Runton and the deposit immediately adjacent to it, which was mapped by Mr. Clement Reid as of glacial age.

The implement found in the West Runton bed is illustrated in Figs. 2, 2A, and 2B, and I have to thank Mr. E. T. Lingwood for being so good as to draw it for me. The specimen is almost unabraded, and exhibits neither incipient cones of percussion, nor striae upon its surfaces. It is of a brownish-coffee colour, darker in places than in others, and has been fashioned by blows removing somewhat large and broad flakes. The larger edges of the specimen are more or less straight, and it seems possible it may be referred to the later portion of Chellean-palaeolithic-times. I conclude, then, with Skertchly, that in this implement, and its provenance, we are provided with still further evidence in favour of the view that the earlier palaeolithic flint implements must be relegated, in this country; as for many years they have been upon the Continent of Europe, to glacial times.

Mr. Guy Maynard has taken from the West Runton gravel a small ovate palaeolithic implement, while Mr. J. E. Sainty and myself have found various flakes of human manufacture in the same deposit. All the specimens are in my possession, and I hope to publish an account of them in the near future.

J. REID MOIR.

India: Sociology.

Chattopadhyay.

Levirate and Kinship in India. By K. P. Chattopadhyay.

25

According to Rivers's theory of kinship and social organisation, "the terminology of relationship" is "rigorously determined by social conditions; and "if this position" be "established and accepted, systems of relationship furnish "us with a most valuable instrument in studying the history of social institutions."*

An interesting example of this kind is found in the system of relationship in Northern India. The mode of denoting relationship is classificatory, and the necessity of special terms for each of the relations—mother's brother, mother's sister, father's brother, father's sister (and their wives and husbands by corresponding terms) is obvious when we remember that marriage within the caste itself (endogamy) is hedged round by bars of *sapinda* (relations of seventh degree) and *sagotra* (bearing the same patronymic title; these can never intermarry—a custom resembling clan exogamy).

But there is one special term which does not lend itself to any such explanation. It is the distinction between the elder and younger brothers of the husband. No distinction is made in terminology between the husband's elder and younger sisters or between the wife's elder and younger brothers or sisters. In fact the distinction is unique in the classificatory system of relationship in Northern India (Hindus). If it be urged that the elder brother is distinguished in some places (as, for example, Bengal) by a special term *dādā*, it should be remembered that the elder sister is also distinguished by a similar term *didī*, and there is no resultant corresponding distinction between the elder and younger sisters of the husband. Further, any such distinction is completely absent in the terminology of the wife's brothers and sisters. And, finally, there is no distinction of elder and younger brother, by a special term for the elder, in Gujarat and United Provinces, while the distinction between the husband's elder and younger brother is present.

I subjoin a table of terms of certain relationships to illustrate the peculiarity. It shows that we have to look for the origin of the distinction in some special privilege possessed by the younger brother with respect to the elder brother's wife. The system of transliteration adopted is that used in Macdonnell and Keith's

* "Kinship and Social Organisation" (1914), page 1.

Vedic Index, for Sanskrit words, with slight additions to suit the somewhat different pronunciations in the different provinces.

English Equivalent.	Bengali.	Oriya.	Hindustani.	Gujarati.
Husband's elder brother	Bhāsur.	Dedhasura.	Jeth.	Jeth.
Husband's younger brother - - -	Dèor.	Diara.	Devar.	Divar.
Husband's sister - - -	Nanad.	Nañanda.	Nanad.*	Nanand.
Wife's brother - - -	Šālā.	Solā.	Sālā.	Sālo.
*Wife's sister - - -	Šālī.	Sāli.	Sālī.	Sāli.
Brother - - -	Bhāi.	Bhāi.	Bhāi.	Bhāi.
Brother, elder - - -	Dādā.	Baḍa Bhāi.	Bada Bhāi.	Moṭa Bhāi.
Brother, younger - - -	Choṭo Bhāi.	Sāno Bhāi.	Choṭā Bhāi.	Nānā Bhāi.
Sister - - -	{ Bahin or } Bon.	Bhauni.	Bahen.	Bahen.
Sister, older - - -	Didi.	{ Nāni. } { Apā. }	Jiji.	} As for brothers in both cases.
Sister, younger - - -	Choṭo Bon.	Sāno Bhauni.	Choṭi Bahen	

The terms *moṭā*, *baḍā*, mean big, hence elder; the terms *nānā*, *sāno*, *choṭo*, etc., mean small and younger. They are used simply as adjectives, meaning elder and younger respectively. The explanation of this distinction between the husband's elder and younger brother is to be found in the existence of the custom of junior levirate throughout Northern India. This custom of leviration is of great antiquity and was introduced by the Indo-Aryans.

In Rg Veda (X, 18.8) we find the brother of the deceased husband saying to the widow by the funeral pyre (Aśvalāyana Gṛhya Sūtra, IV, 2.18):—"Thou hast entered into the state of being wife of a spouse (who was) a hand-grasper (and is) thy suitor now,"† as he takes her by the hand and asks her to rise up and leave the dead. The reference to levirate is unmistakable also in Rg. Veda (X, 40.2):—" . . . Who brings you homeward, as the widow bed-ward draws her husband's brother."

The Manu Samhitā (IX, 59-63), the most authoritative code of Hindu law, also enjoins the same thing, though with certain limitations.‡ It is laid down that should a woman become a widow before becoming a mother (or pregnant) the *devara* or some *sapinda* or *sagotra* should raise a son on her (or, according to some, two), and ever afterwards should treat her as a daughter-in-law (i.e., in strict abstinence from sexual action or thought). The custom is technically known as *niyoga*. The word *devara* occurs elsewhere (M.S. III, 55), also in Manu, where it obviously means, as here, simply the husband's brother. The commentator Medhātithi also explains

* In Orissa, the wife's elder sister is distinguished from the wife's younger sisters, who are called *sāli*, by the term *dedhasāru*; a man may not marry the elder sister of his wife but the younger sister. Hence the reverential term for the elder.

† Lanman—Sanskrit Reader and Kaegi Rig Veda N. 51. Also Maedonnell's *Sanskrit Literature*, page 126.

‡ The word leviration is used in the sense of union with the deceased husband's brother and junior levirate, to denote the custom of marrying the husband's younger brother only. Niyoga, strictly speaking, differs from the leviration, in the limits imposed on connection with the widow after the birth of one or two sons. But the restrictions do not seem to have been observed, and for the purpose of this essay, *niyoga* may be taken as equivalent to leviration, in its effect on the kinship terms at any rate.

devara as husband's brother and Sarvajñanārāyaṇa does the same, laying stress on "own" brother; he further explains that it is only in the absence of the brother of the husband that the duty of *niyoga* falls on the others.

It is quite true that Manu denounces the custom (IX. 64-68) and urges that it has not the sanction of the vedic marriage *mantras*, but, as we have seen, levitation existed in vedic times. That it persisted and received the sanction of later law-books is seen from Yājñavalkya Samhitā (Āchāradyāya, 68) which enjoins the same thing though it is several centuries later than Manu Samhitā. (Yājñavalkya's code was probably completed in its present form in the fourth century A.D.; the Manu Samhitā about the first or second century B.C.) The law books of Gautama (XVIII, 4-8), Baudhāyaṇa (II, 2, 4, 9), Vasiṣṭha (XVII, 56), and Āpastamba (II, 10, 27) also sanction it.

A strong feeling against the custom of levitation is found in all these law books, and the custom was gradually dropped, especially among the higher castes. It persisted, however, among a great many tribes and castes belonging to the less-advanced strata of the people, until comparatively recent times. But in the interval it underwent a very natural, though important, restriction. It has already been pointed out that the word *devara* is explained by the commentators of Manu simply as brother of the husband; those of Yājñavalkya, however, explain it as his younger brother.

Further, Ujvaladatta in his annotation to *Unādisūtras* and Mahesvara in his comments on Amarakoṣa restrict the word *devara* to the younger brother. Both these commentators flourished after the twelfth century A.D., whereas Medhātithi lived in the tenth century A.D. Also the text in Amarakoṣa (Book III, śloka 32 of *manuṣyādhyāya*) runs as follows:—"The brothers of the wife are called *śyālās*; those of the husband *devr* and *devara*." There is no indication that any distinction is intended by the author. It is the commentators of much later date who explain that *devr* means husband's brother and *devara* the younger brother of the husband. In the *Unādisūtras* itself, only derivations of words are given, not meanings. Thus we see how the meaning of the word *devara* was gradually restricted to the younger brother, the *niyoga* becoming his special duty.

In modern practice the custom has practically disappeared from the higher strata of Hindn society; it is, however, almost universal in other castes all over Northern India.

In Behar "all castes except Brahmans, Rajputs, Bahhans, Kayasths and " certain castes belonging to the Baniya class . . . permit widows to marry " again by the form known as *sagai*. A widow may marry her late husband's " younger brother, and in some castes she is under a sort of obligation to do so. " Marriage, however, with her late husband's elder brother or elder cousin is " strictly prohibited. Such marriages (with *dewar*) are not considered disreputable " . . . Symptoms of a tendency in the opposite direction are, however, not " wanting.

" In Chota Nagpur the castes which are, or pretend to be, of Behar origin follow " the Behar rules in the matter of widow marriage. The tendency to imitate the " usages of the higher castes operates more strongly in Bengal proper and Orissa."*

In Western and Central Bengal, the levirate (junior) is prevalent to some extent, but almost wholly wanting in Eastern Bengal. In Orissa it is mentioned† that the levirate is understood in the full sense of the *niyoga*. The custom is known as *Devarina sutoputti*, i.e., begetting a son through the husband's younger brother. The younger brother has to raise up seed to the deceased elder brother.

* Risley, "Tribes and Castes of Bengal," 1892, Vol. I., lxxix et seq.

† Census Reports, 1911, V.

In the United Provinces of Agra and Oudh, the position at present seems to be* the levir is not bound to marry the widow if he does not want to; the widow is not bound to marry the available levir if she wants to marry anybody else, or nobody. Some thirty years ago, however, there were still castes and tribes where the widow had to marry the available levir, if there was one (younger brother of the husband). In cases where a widow refuses to marry an available *devar* she loses all rights of maintenance and her children by the former husband, while the new husband has to pay a bride price. A common restriction is that if a widow remarries any other than the *devar* she must marry a widower. It should be noted in this connection that she can never marry the jeth.

In the Central Provinces† junior levirate seem to be permitted by practically every caste in which widows remarry. There does not seem to be any caste where it is compulsory, but in most of the lower castes of the Provinces, e.g., Telis, Chamaras, Kostis, etc. it is usual, and in many cases the deceased husband's younger brother has to be compensated by a present of money or cloth if the widow marry anyone else. The relations between a man and his elder brother's wife are always tinged with a familiarity almost verging on license. In marked contrast is the stern taboo which exists between a woman and her jeth. A marriage between a jeth and his younger brother's wife is strongly denounced, and is not known to exist in any but the Banjara caste. In Rajputana‡ among the thirteen principal Hindu castes that allow widows' remarriage, the Ahirs, Chamaras, Gujars, Kolis, Kumhars, Minas, Rawats, and in some states, the Jats and Malis practise or favour junior levirate. Among Bhils and Merats in most cases a widow's late husband's brothers have no prior claim to her hand now. Junior levirate, however, was formerly the usual practice among Bhils.§

In the Punjab and North-Western Provinces the name *Karāo*|| is "given among Jats, Gujars, Ahirs and other inferior tribes . . . to concubinage generally, " but more especially to marriages of widows with the brother of the deceased " husband." The practice is common among these classes, but it is only the younger brothers who form these connections, elder brothers being prohibited from marrying their younger brother's widows. Elder brothers, however, also seem to be allowed to marry a younger brother's widow in quite a number of castes.**

In the North-Western Frontier Provinces†† the hill Brahmins of Hazara, who have no objection to remarriage of widows, hold that the marriage should be, if possible, with the deceased husband's younger brother. The Hindus of Swat also hold the same view.

In Kashmir, where remarriage of widows is permitted, the brothers and cousins seem to have a preferential claim; but there appears no bar to her acquiring intimacy with a stranger, "only the outsider has to compensate the man entitled to retain her."‡‡

In Central India Agencies among higher castes, where widow marriage exists, a widow cannot as a rule marry any member of the deceased husband's family. Widows among the aboriginal tribes and low castes may marry the younger brother of the deceased husband, but there is no compulsion.

In the Bombay Presidency,§§ the higher castes as a general rule do not allow widow remarriage, while in the lower grades of society it is permitted. In some castes the younger brother is expected to marry the elder's widow and the elder

* Census Reports, 1911, *Ibid.*, XX. † *Ibid.*, X. ‡ *Ibid.*, XXII.

§ Crooke, *Tribes and Castes of North-Western Provinces and Oudh*, 1896.

|| H. M. Elliott, *Supplemental Glossary of Indian Terms* (page 274). Trübner, 1869.

** H. Rose, *Punjab Tribes and Castes*, 1911.

†† Census Reports, 1911, XIII. ‡‡ *Ibid.*, XX. §§ *Ibid.*, III.

brother is harred, while among others it is optional. Outside those castes which practise the levirate, as it is called, a widow generally has to avoid the group to which her late husband belonged. In Bombay it is specially in the Baroda State and Gujarat that the practice of junior levirate, known as *diyārvātu*, is extremely prevalent among the lower castes.* The custom is, however, falling into disrepute because of the fact that the elder brother's wife is now, in imitation of the higher castes, looked upon as the mother of her husband's younger brother. It is only when there are young children, likely to be neglected by an outsider, that it is considered advisable for the *diyar* to marry her.

Among the higher castes, even in all parts of Northern India, though actual leviration may not be allowed, certain privileges are found to belong to the *devara*. Thus, while it is considered improper for a woman to talk or even show her face to the elder brother of the husband, great freedom is allowed with the younger brother; it sometimes amounts to a mild flirtation.

It is quite easy to follow the actual process of restriction of the leviration to the younger brother, if we remember that in Hindu society it is the rule for the elder brother to marry before the younger, unless he is suffering from some disability which compels him to remain celibate, or unless he turns an ascetic. The marriage of the younger brother before that of the elder is condemned by the *śāstras*.†

Therefore, when the time for executing such a commission came it would be found in general that only the younger brothers, if any, were unmarried. It would not be agreeable, and, in fact, for his domestic happiness, not very possible, for the elder married brother to execute this commission. Consequently the duty of leviration would devolve more and more on the younger brother, and in course of time he restricted to him. The appellations of the elder brother of the husband uphold this view; he has not one name, like the younger brother, but is called by different terms in different parts of India, showing later origin. The Sanskrit word *jyestha*, corresponding to the word *jeth*, is a pure adjective, meaning elder. The word *bhāsur* used in Bengal would seem at first sight to be a slight modification of the Sanskrit word *bhāsura*, meaning splendid or glorious. But the real derivation seems to be different, and falls more in line with the view put forth about the origin of the distinction of the elder and younger brother. It is derived from the compound *Bhratr-śvāsura*,‡ meaning brother who is as a father-in-law. It seems to have undergone a similar cycle of changes as the words *pitr-svāsā* (father's sister) and *matr-svāsā* (mother's sister), which now survive as *pisi* and *masi* in Bengali. The terms of address of the husband's elder and younger brothers in Bengal also support this view. They are *badhākur* and *thākurpo* respectively. The latter means son of the *thākur* or honoured person. The word *thākur* (literally god) is applied to the father by the children, and a woman would mean also her husband's father. The word *thākurpo* simply means son of the *thākur*, *po* being derived from *putra*, meaning son. The term of address for the elder brother of the husband, on the other hand, is a compound of *baḍa*, meaning big or elder and *thākur* transferring the relative to the category of persons honoured like the father-in-law. The Oriya term *deghasura* is a similar compound as *bhāsur* and *badhākur* in Bengal, the termination *sura* being a contraction of *śvāsura*, meaning father-in-law. Thus we see that through the rigid prohibitive force of later custom, the name of the elder brother of the husband became reverential, while in actual practice he was driven farther and farther from intimacy with the younger brother's wife by customs requiring the woman to hide her face from him and prohibiting them from holding conversations with one another. Even his very name was made improper to utter, like the name of the different kinds of fathers-in-law and mothers-in-law.

* Census Reports, 1911, *Ibid.*, XVI. † M.S. III, 154, 171-2. ‡ See J. M. Das's *Bengali Dictionary*

Finally, this distinction of the elder and younger brother of the husband is completely absent in the languages of Southern India, Tamil, Telugu, Malayalam, Kanarese and Marathi, concurrently with the practical absence of the custom of junior levirate in the Deccan, Kanara, Mysore, as well as the Tamil country proper, e.g., Madras Presidency excluding Ganjam, Vizagapatam, and Northern Circars.*

It is therefore quite clear that the differentiation between the elder and younger brothers of the husband in Hindu society owes its origin to the custom of junior levirate, that it existed in the unrestricted form in early vedic times; and that the word *devara* has undergone exactly the same process of restriction as the performance of the duty itself.

In a later paper it is hoped to discuss the distribution of the levirate.

I am indebted to Prof. Rapson for reviewing the dates of the law books, given in this paper. I must also thank Dr. Rivers for his kind help and encouragement throughout this essay.

K. P. CHATTOPADHYAY.

NOTE.—On more detailed analysis it appears that the feeling against the husband's elder brother probably existed before the Vedic people came. The limiting of the function of unrestricted levirate of the immigrants would in that case arise from the interaction with the older people. The reasons suggested in this essay would merely operate in its favour.

K. P. C.

Rhodesia: Religion.

Barnes.

Survival after Death among the Ba-Bemba of North-Eastern Rhodesia. By The Rev. H. Barnes.

26

One is familiar with the idea that such immortality, or rather survival, as forms part of the belief of the Bantu is only limited, and that there is probably no idea of immortality or indefinite survival. A curious belief and practice illustrating and confirming this came to my notice lately here in N. E. Rhodesia, among the Ba-Bemba. I was making inquiry of some Christian teachers of quite limited education as to the significance of the word "*mupashi*," which is sometimes used in translation into Chi-Bemba to render the English "spirit" or the Greek *πνεῦμα*. I was told that "*mupashi*" means the disembodied spirit that parts from the body at death, but that it would be wrong to speak of the spirit of a living person as "*mupashi*" or to apply the word to any spiritual being that had never been embodied. Also it would not be the right word to use in such phrases as "giving up the ghost," "commending the spirit." In these latter phrases the word "*muweo*," connoting rather the vital spark, and not anything personal or individual, would appear to be appropriate.

The "*mupashi*," when it leaves the body, goes far and near, seeking among people of the same clan as the person from whom it has come, until it finds a newborn babe as yet unnamed. The *mupashi* suffers under the disadvantage of being invisible and incapable of producing audible sounds, and in these parts it has not yet learnt to communicate by means of tables or planchette. It must find a medium who will be able to interpret its wishes and convey them to the right address. But what is its message and how does it attract attention? Its desire is to secure the transmission of the name borne by its last owner, so that that name may not die out and with it the memory of its holder and the existence of the *mupashi*. The *mupashi* is thus seen to be struggling for its own survival. It calls attention to itself and its desire by making the newborn babe of its family cry and cry until its parents in despair send for the *sing'anga* or diviner. The *sing'anga* is able to understand and communicate with the *mupashi*, but almost as awkwardly as our own table turners

* Thurston, "Tribes and Castes of Southern India, 1909"; Iyer, "Cochin Tribes and Castes," 1909; Nanjunadaya, "Ethnographic Survey of Mysore."

He is quick to know that the child's crying is caused by the *mupashi* who wants to confer a name, but he can only find out which name the *mupashi* is interested in by going over the names of the great men of the family. The name may be that of a quite remote ancestor, although the *mupashi* is but recently freed. The process of carrying on the name may have begun long ago in the interest of some specially memorable man or woman. The child, by the way, may be of either sex. The *mupashi* will indicate that the right name has been pronounced by leaving the babe in peace. When the babe ceases to cry at one of the names offered, the *sing'anga* announces that the child is to bear that name, and the mothers see to it that it is so. If all the bearers of a name so conferred die out, the name is forgotten, the ancestor no longer survives even as a *mupashi*, and a full stop is reached in that chain.

The new-born child is always or usually named in this way. In the case of twins the first-born will have a name so given, but the second will be called simply "Twin," "Pundu."

H. BARNES.

Obituary.

Burkitt.

Emile Cartailhac. By Miles C. Burkitt.

27

Cartailhac of Toulouse is dead, and Prehistory has lost one of its great pioneers. It is only fitting that he died in harness, whilst giving a course of lectures at Geneva.

Emile Cartailhac was born in 1844 at Camarès, in the Aveyron. Just six years before his birth, Boucher de Perthes had proved irrefutably that Man existed in the days of the great Quaternary mammals, creatures which have long been extinct. This discovery raised an immense discussion, and into the thick of this dispute Cartailhac threw himself directly he had finished his studies. He was full of enthusiasm, gifted with an astonishing power of work, and possessed of a scientific mind, yet one open to the reception of all new ideas.

At the age of twenty-five Cartailhac became the editor of the review "*Matériaux pour servir à l'Histoire primitive et naturelle de l'Homme.*" In 1872 he took an active part in the Sixth International Congress of Anthropology at Brussels; and from thence onwards was accepted as an authority in the study of Human Palæontology. He wrote not much, but brilliantly; his "*France préhistorique*" has run through many editions in thirty years; and "*Les Âges préhistoriques de l'Espagne et du Portugal*," though published in 1886, is still the best work on the subject. The same may be said of his "*Bronze Age Constructions of the Balearic Isles*" (*Les Monuments primitifs et cyclopéens des îles Baléares*). It is impossible to speak in detail of all his writings; many articles by him appeared in *L'Anthropologie* but amongst other works mention may be made of "*Altamira*," in which (collaborating with Breuil) he described the wonderful paintings of the cave of that name. Cartailhac had been at first inclined to doubt the Quaternary age of these paintings, but having by a careful study of them convinced himself of their authenticity, he publicly recanted his first adverse opinion in "*La Grotte d'Altamira, Mea culpa d'un sceptique.*"

In many ways Cartailhac was like the late Sir John Evans, his interests were wide and he knew an astonishing amount of obscure and recondite byeways of knowledge. In his own special subject he had the advantage of being as it were a spider in the centre of the web. As the editor of "*Matériaux pour servir à l'Histoire primitive et naturelle de l'Homme*," and afterwards as Cartailhac of Toulouse, he received offprints of everybody's work, and thus had unrivalled opportunities of knowing modern archaeological work all over the world. The real difficulty was that he knew too much, and thus published little. Perhaps his most important work in life was his influence on younger men who came in contact with him. It is a privilege never to be forgotten by the writer to have travelled through

the painted caves of South France under his guidance, and to have done research digging with him in the Pyrenees. Looking back, one's first emotion is affection for the old man: his courtesy, his charm of manner, even his pessimism for humanity captured one; and, afterwards, the scientific value of intimate intercourse with him could not but be highly appreciated. Not only did he grow with his subject, of which so little was known when his researches started, but he knew a great number of facts, had a fertile imagination, and a way of handling the study which made it thrilling to the novice.

I shall never forget the sight of the old man lying in the mud at Gargas, digging away by the light of his acetylene lamp, always last at the mid-day lunch, always first back to what was really a disagreeable task. We had much conversation at night, scientific and otherwise; for him the future was always dark, he distrusted democracy, he believed few persons took interest in matters not immediately concerning them, and yet, his own University Museum of prehistory at Toulouse disproved this, for on open days it was always full of the townspeople and their families. This, was, perhaps, due to the brilliant manner in which he himself had arranged the collections, making them tell their story in almost as vivid a manner as he would have done in speech.

One can recall incident after incident that would illustrate the charm or the scientific value of this remarkable man of the old school, but I will only add that his death has left a void, both in the lives of great prehistorians like Breuil, and in those of us lesser folk. I cling to the remembrance of my friendship with him, and am proud to remember that I could sign myself: "Votre dévoué."

MILES BURKITT.

Obituary

Fleure: Haddon.

V. Giuffrida-Ruggeri, 1872-1921. *By Professor H. J. Fleure, D.Sc.,*
with a note by A. C. Haddon, Sc.D., F.R.S.

28

Professor V. Giuffrida-Ruggeri was born in Catania in 1872, and was thus only forty-nine years of age when he died almost suddenly on 21st December 1921, but in his short life he had contributed in remarkable fashion to critical scientific thought, and one is glad to know that he had already begun to receive the recognition due to his work, for he was a corresponding member of the appropriate societies in Paris, Vienna, Moscow, Lyons, Brussels, Geneva, Oporto, London and Liège. He studied under Sergi at Rome, taking his doctorate in medicine in 1895 and inaugurating a very long series of publications in 1897. From 1900 to 1905 he was assistant to Sergi, while from 1907 onwards he was at Naples, first as Extraordinarius and, since 1917, as Professor Ordinarius of General Anthropology in the Faculty of Natural Science. He married a British lady, Miss Lilian Strachan, who survives him with two very young sons.

His work revealed both a philosophic mind and a critical acumen which made his scientific colleagues stand in some awe of his quiet criticisms, and he had made himself almost unique as a fount of information about anthropological research in most countries of the world, though he was not much given to looking over the hedge into the adjacent garden of geography. His strongmindedness seems to have prevented him from ever passing through a phase of echoing Sergi, and, in his later work at least, he criticised the veteran's theories powerfully if respectfully. His medical training was brought out strongly in over twenty contributions issued during his first three years of publication, but the trend towards pure physical anthropology became ever more marked, and this was the subject of practically all the 158 papers and books in Italian catalogued against his name. When one adds that he also issued over 20 papers and books in English, French, German and Portuguese, one has a measure of his remarkable activity.

His work shows that he was ever concerned with an improved understanding of the genetic relationships between types of mankind, and in a review of his book *L' Origine dell' Uomo* the present writer has given an introductory idea of the position he had so far attained. That he thought of the Mediterranean race as the result of intercrossing of a number of earlier types in the western Mediterranean region shows that he had to a large extent shaken himself free from the dangerous arguments dependent on completeness of analogy between human breeds which are fertile *inter se* and animal species which, as a rule, are not. He also showed appreciation (see especially *L' Uomo attuale*, 1913) of the bearing of Mendelian inheritance on the question, and in that book he discusses appreciatively the work of Hurst, Davenport and others.

His interest in the origins of Mediterranean Man led him into questions concerning the famous Cro-Magnon man, and he vigorously attacked the use of the term "Cro-Magnon Race" for the general run of men of the upper Palæolithic period. In fact, he may be said to have demolished, for serious scientific purposes, the notion that because those men were all more or less longheaded they may be referred with a few exceptions to that one race-type. In this work he emphasises the contrast between hypsistenocephaly—the possession of a high narrow head with the region of attachment of the temporal muscles almost plane, and platycephaly—the possession of a relatively much lower vault and a more continuously curved skull surface. One noticed frequently in his work a subconscious tendency to attach great importance to characters of the nose, and had he lived he might well have helped to develop an analysis of facial characters that would have helped greatly to clear our ideas about the races of man. Yet, in the development of his thought one finds little evidence of attention to climatic, dietary and other indirectly or directly physiological factors involved; it was the pure morphology rather than the hypothesis of physiological and other factors that occupied his thought. Shortly before his death the University of Calcutta Press has issued his "First Lines of a Systematic Anthropology of Asia" in an English translation, and he was planning an English adaptation of "*L' Origine dell' Uomo*" (1921).

His death is a severe blow to anthropological progress. His follow-workers had come to depend on him for indications of publications in all languages, much as on the archaeological side they had learned to look to Déchelette since 1908. His criticisms and his honest and individual attempts to progress towards a better grip of the real problems of racial character, his freedom from catch phrases and his phenomenal industry were giving him a unique position in anthropological science, which can unfortunately no longer look forward to a great synthesis of the Morphology of Men's Diversities from this zealous and most thoughtful student.

A typescript bibliography of the works of Professor Giuffrida-Ruggeri has been prepared and placed in the Library of the Royal Anthropological Institute for the use of Fellows.

H. J. FLEURE.

Giuffrida-Ruggeri had a witty style and did not fear to criticise those from whom he differed, and in him we have lost a versatile, indefatigable and learned anthropologist, who has been cut off in his prime. It is difficult to summarise his work, as it was so varied. He endeavoured to correlate modern biological research with anthropological studies, and had a strong morphological bent; in his papers on descriptive somatology he tried to bring out the story that lay behind the details.

A. C. HADDON.

REVIEWS.

Europe: Archæology.

Macalister.

A Text-book of European Archaeology. By R. A. S. Macalister, Litt.D., F.S.A., Professor of Celtic Archaeology, University College, Dublin. Vol. I., **29**
The Palæolithic Period. Cambridge: University Press. 1921. Pp. xiv+610.
 184 illustrations. Price 50s. net.

The need has long been felt for a book dealing with prehistoric times in Europe or the European region, a work which shall trace the history of mankind from the earliest times to the days of written documents. Hitherto our best guide has been Déchelette's "*Manuel d'Archéologie*"; but this has etriot limitations, as it purports to deal only with France, though in fact it covers a much wider area. Much also has been discovered since the first part appeared.

The volume under review seems to be part of the work we have been seeking, and it is both more and less than a text-book of archæology. More inasmuch as it attempts to give a consecutive account of the history of man in Europe during these far-off days, to consider not only his works but his bodily form and his mental outlook; less because no attempt has been made to deal minutely with typology, or to give an exhaustive list of all the discoveries made. The title is, to this extent, a misnomer; the work is rather a Prehistory of Europe, or, if such a paradox may be allowed, a History of Europe in Prehistoric Times.

It is written throughout in a pleasant style, and the evidence, often of a complicated nature, is placed before the reader with extreme lucidity and no little humour. Out of the vast mass of data on the subject a selection had, of course, to be made, and while it cannot be expected that all authorities will agree with the author in what he has omitted and what he has retained, the book has gained considerably by leaving out the unessentials and concentrating on what really matters.

After an interesting introduction dealing with the history, purpose and methods of archæological research, the author devotes a long chapter to the geological problems, especially those concerned with the ice age. He accepts the polyglacial theory of Penck and Brückner as true for the Alpine region, though he omits to mention Boule's criticism of the Günz glaciation, but he seems inclined to throw in his lot with the monoglacials in the British Isles. He does not state clearly the evidence on which these geologists rely, or his reasons for agreeing with them, nor does he deal at all with De Geer's views on the retreat of the Scandinavian ice-sheet. In spite of these omissions, his statement of the ice age problem is judicious in tone, and one of the clearest summaries which has yet appeared.

The palæontological summary which follows contains some useful matter, but nothing new, while his deductions as to climate and vegetation are meagre. The chapter on Anthropology has some good discussions on man as a *tool-fashioneer*, not merely a *tool-user*, and on the meaning of "race"; the author has also much to say on language, though his criticism of linguistic palæontology strikes one as unnecessarily severe. The chapter as a whole is well-balanced, and contains a good summary of the chief features of anthropology, which should be useful to the student of archæology.

Chapter V. is a long one, and much of it consists of a discussion on the subject of eolithic and rostro-carinates. The author has adduced a powerful set of arguments against the human workmanship of these flints, and has discussed the case with great forensic skill. On the other hand he has been somewhat over-dogmatic in some of his statements, and has been demanding proofs of a type which can hardly be expected at the present stage of the inquiry. This chapter will be welcomed by those who disbelieve in eoliths, though it may be doubted whether it

will convince any of their supporters. The author has not mentioned the Foxhall flints, which were found some three months before the volume went to press; this discovery somewhat weakens his argument.

The following chapters give a very clear account of the implements of the Lower, Middle and Upper Palæolithic periods respectively. There is no attempt to enter into details of typology, in fact the author is rather sceptical on the value of such minute classification. The general features of the period are well described, though it is clear that the author has no great first-hand knowledge of the types, and still less of the sites at which they were found. He seems unaware of the discovery of Mousterian implements and a Neanderthal skull near Constantino in Algeria, and has made a number of small errors in his description of late palæolithic implements and sites in France. He traces, however, the history of the different types of man, their cultures and the movements of peoples with greater clearness than most other writers, though he brings the Solutreans into France after the steppe period had passed away, and equates the coldest phase of the Buhl advance with a relatively early stage of the Magdalenian period; on these points he differs from other writers.

Unlike most authorities, Professor Macalister brackets the Azilian with the Campignian as a Mesolithic period, and, as he treats it, the scheme offers many advantages. His views on this phase and his discussions on many doubtful points will help to clear up the uncertainties of this very difficult stage, but he seems unfamiliar with much that has been written on the subject of the Scandinavian cultures. His conclusions cannot, in all cases, be accepted as the last word on the subject.

His summary of the palæolithic age at the close of the volume is very clear, and his equation between the different cultures and glaciations, in which he is in agreement with Ohermaier, should receive general support, though his reconstruction of the history of modern man before his arrival in Europe is not so plausible.

Throughout the whole work Professor Macalister writes, not as a protagonist for this or that point of view, but as a judge summing up the evidence; only in the case of coliths has this summing up been decidedly on one side. As a general introduction to the early history of Europe, conceived on broad lines by one who has read most of the literature on the subject, it provides what the student has long been needing; those who wish to specialise on the palæolithic age will, however, need to consult works by writers who have a more intimate knowledge of the period.

H. J. E. P.

India: Mohammedanism.

Herklotz; Crooke.

Islam in India or the Qanun-i-Islam. Translated by G. A. Herklotz, M.D.

New edition, revised and re-arranged, with additions, by W. Crooke, C.I.E.,
Hon. D.Sc. Oxon., Hon. Litt.D. Dublin. Oxford: University Press, 1921. Pp. 338.
17s. 6d. net.

30

To the enterprise of Mr. Milford and the Clarendon Press we owe this valuable republication of the translation by Dr. Herklotz of the *Qanun-i-Islam*, written by Jafar Sharif of Ellore in Madras in 1832. Its primary importance as a record of the customs of the Mohammedans of Southern India is enormously enlarged, far beyond the original usefulness of the book, by the additions, annotations and elucidations which come from Dr. Crooke, who covers all Indian Mohammedanism. Here is, indeed, a case where the commingling of cultures can be viewed in various stages, in many degrees of admixture of the component elements, by means as different as can be imagined, for the most part by holy text of pike and gun reinforced by infallible artillery, but at times, when necessary, by missionary fervour

or by peaceful penetration. The geographical distribution in India of Mohammedanism is worthy of note, for on the west we have the Brahuïs, so picturesquely described by Denis Bray, and in the east "throughout the whole length of the coast line of Burma, but more especially in the Akyab and Morgui Districts, are to be found indigenous Mahomedans scarcely differentiated from the neighbouring Arakanese or Burmese in dress and speech and customs . . . who maintain their Mahomedan religion unaffected by the strength of their Buddhist surroundings." In Manipur too, while in speech and dress they are in the local fashion, they hold themselves distinct and maintain their religion as far as Hindu rule allows. It is a matter of comment to see that Islam does not seem to have ever made much direct headway with the lower culture as we know it, perhaps because after all the Mohammedans came as conquerors and as masters above those Hindus who were in touch with the folk of the jungle. Thus the Mal Paharia were near to Gaur and yet, secure in their mountain fastness, were untouched by Mohammedanism of any kind. As a result of the processes of admixture, Islam in India, as is so well shown by Dr. Crooke, is now overlaid by or emerging through a welter of practices and beliefs characteristic of the lower levels of Hindu culture in India, very imperfectly harmonised with strict monotheism. It is thus a new book on a subject of which it was most desirable to have in these days an authoritative and exhaustive account. What Islam means, what Islam can effect in favourable conditions, are matters of grave import and a sense of timeliness adds to the usefulness of this scholarly addition to the study of the clash of culture.

T. C. H.

Religion: Sneezing.

Saintyves.

L'Eternuement et la Bâillement dans la Magie, l'Ethnographie et le Folklore Médical. By P. Saintyves. Paris: Emile Nourry. 1921.

31

When Sir E. Tylor gave his classical explanation of the customs connected with sneezing in his "Primitive Culture" (Vol. II., pp. 97-104) little remained to be done in the way of scientific examination of the question. But this world-wide superstition presents so many points of interest from various points of view that there was still room for a comprehensive monograph describing its distribution and varieties, and providing references to the original authorities. This task M. Saintyves has undertaken with great success. He deals in succession with: *Les Causes de l'Eternuement d'après les Primitifs et d'après les Anciens; Animisme et Spiritisme; De l'Origine du "Dieu vous bénisse!"—Légendes Rabbiniques et Chrétiennes—Contes Européens; Du Présage et des Augures tirés de l'Eternuement.* He concludes with a collection of extracts from works referring to the custom in various parts of the world. The essay is the result of a wide course of reading and the full citation of authorities will be useful to all students of this curious custom.

W. CROOKE.

CORRESPONDENCE.

India: Archæology.

Vines.

To the Editor of MAN.

DEAR SIR,—Perhaps it would interest your readers to know how almost exactly parallel to Dr. Seligman's finds of flints in Egypt* are the conditions here in the North Indus Valley. In the north of Sind there are hills overhanging the valley, and close to the precipitous margins of the hills are to be seen the darker patches of flint workshops, probably exactly as the workers left them many

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* See "The Older Palæolithic Age in Egypt" by C. G. Seligman, M.D., F.R.S., *J. R. Anthropol. Inst.*, Vol. LI., pp. 115.

thousands of years ago. These contain only cores and broken chips, but all are of yellowish brown patination and lustre, showing the strong iron colouring spoken of by Dr. Seligman.

But back in the same hills, in the nullahs, can be picked up flint knives and other tools, all of white or whitish colour. I had only a few hours at the time of finding them, and did not inspect the faces of the hill-sides overhanging the nullahs, where I might have found the flints in their original bedding. But this I hope to do on a future occasion.

I only regret that, not being a geologist, I can give no information about the geological horizon of these finds; but they would seem to be much the same as those in the Nile Valley, judging from Dr. Seligman's extremely interesting description.

I am, Dear Sir,

Yours faithfully,

T. H. VINES.

Sind Madressah, Karachi,
January 1922.

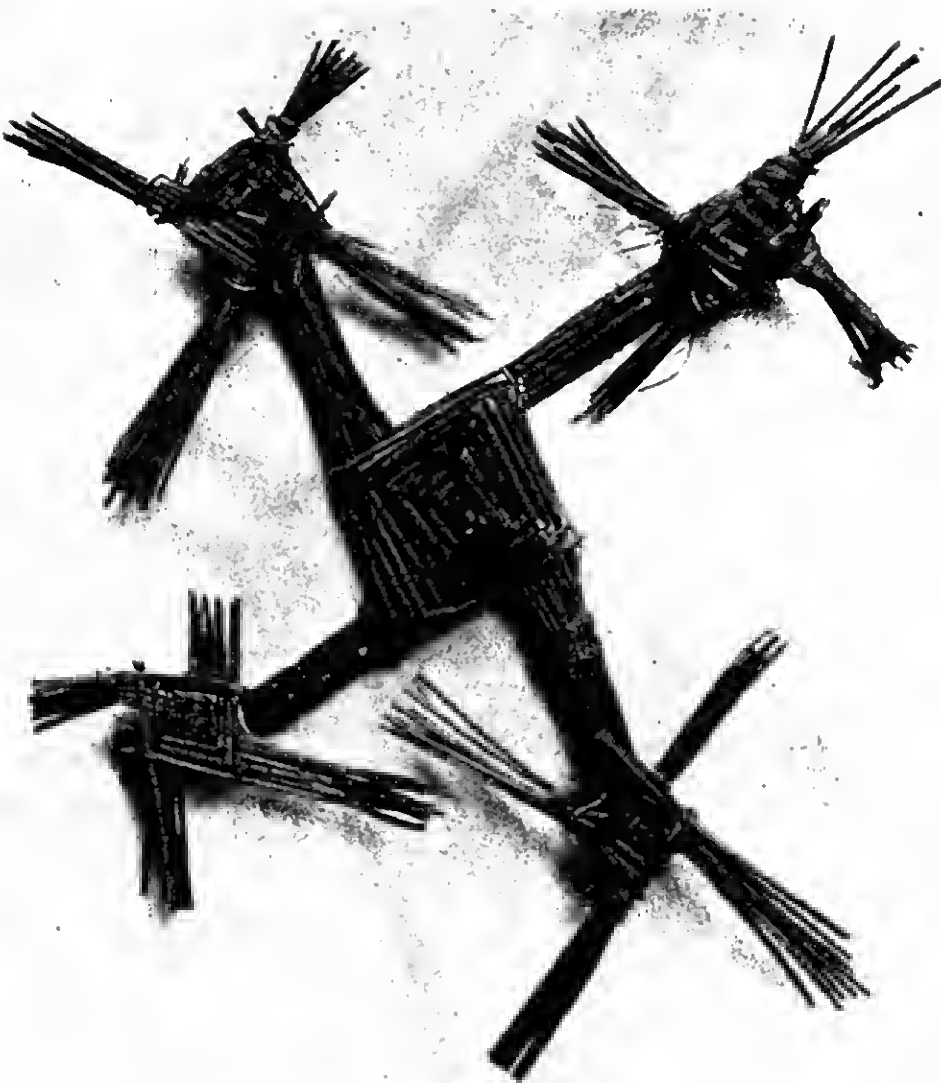
ANTHROPOLOGICAL NOTES.

Tertiary Man.—In Mr. Burkitt's report of the proceedings in the Prehistoric Section of the Congress of the Institut International d'Anthropologie, held at Liège in July 1921, it was stated that the Abbé Breuil, after a personal examination of the East Anglian sites, and of Mr. Reid Moir's collections, had admitted the probable existence of Tertiary Man on the evidence of the Foxhall flints (*MAN*, 1921, 94). It would appear, however, that the Abbé Breuil is prepared to go further. The issue of *Savoir*, published in Paris on December 24th last, contains an article by M. Capitan, in which he states that both he and the Abbé Breuil agree in accepting the flints of the Cromer Forest Bed and the Crag, including those found at the base of the Crag, as artefacts and as indubitable evidence for the existence of Man in the Pliocene Age. He claims that the familiarity with the peculiarities of flints fractured by natural agencies, which he and his colleague have acquired by the examination of a large number of specimens, enables them to distinguish the products of human activity with certainty. Further, the number, regularity, and position of the chippings on the specimens collected from these sites by Mr. Reid Moir preclude the possibility of any agency other than purposive human action. The Royal Anthropological Institute has also received a communication from the Abbé Breuil on this point in reference to Mr. Peake's article on the Ice Age (*MAN*, 1922, 5), which will be published shortly.

Prof. H. Fairfield Osborne in an article in *Natural History*, the journal of the American Museum, also accepts the Foxhall flints as certain evidence for the existence of Tertiary Man.

The Indian Antiquary.—To celebrate the fiftieth anniversary of the publication of the *Indian Antiquary*, Sir Richard Temple, Bt., who for thirty-seven years has been the Editor-Proprietor, has written a short account of the magazine, which has had among its contributors many great Indian and Oriental scholars in India itself, as well as all over Europe and America. As is well known, the object of the *Indian Antiquary* has been to provide a means of communication between the East and the West on subjects connected with Indian research, and a medium to which students and scholars, Indian and non-Indian, could combine to send notes and queries of a nature not usually finding a place in the pages of Asiatic Societies. Notable contributions relating to the archaeology, epigraphy, ethnology, folklore and religion have been published in its pages.

11/11/11 11:11:11



RUSH CROSS FROM CO. DONEGAL.

ORIGINAL ARTICLES.

With Plate D.

Ireland: Folklore.

Andrews.

Rush and Straw Crosses; Ancient Emblems of Sun Worship.

By Miss Elizabeth Andrews.

34

In MAN, 1920, 45, Mr. Armstrong has described a gold solar disc found at Lattoo, Co. Cavan, which he connects with sun worship in the bronze age in Ireland. I should like to draw attention to the rush and straw crosses put up in many parts of that country, which are, I believe, a survival of this ancient cult.

The significance of the rush cross was first pointed out to me by the late Lady Huggins, who showed me one, saying it had come from Ireland, and was a very ancient symbol of the sun. I replied I possessed a cross of similar shape, which came from Portglenone, Co. Antrim, and had been given me by Mr. Robert Bell, a member of the Belfast Naturalists' Field Club. A little later I visited Maghera, Co. Derry, and obtained a number of rush crosses and harvest knots; some of these I sent to Lady Huggins, and, in acknowledging them, she wrote:—

"Regarding the dried rush cross I showed you, and which came from Ireland, it is exactly the same in form as those you have sent me. You thought my cross like what you had seen. I thought they would turn out identical, and they have. There is no doubt in my mind that in these crosses we have a form of the swastika, among the most ancient of symbols. A Greek coin connects the swastika with the sun. I hope before long to put into shape my views and notes on early sun worship amongst us in these islands." In a later letter, Lady Huggins wrote:—"The astronomical side of the rush and straw crosses I hope, some day, if I live long enough, to say something about myself." I greatly fear that this intention was never carried out: this was the last letter I received from Lady Huggins before her death.

Dr. Schliemann found a sign identical with the Indian swastika in great abundance on the pottery of the third or fourth city at Hissarlik, as well as on the two subsequent prehistoric cities.* He believed it was a sign of the sun, and represented a wheel in motion. This conclusion was endorsed by Dr. Max Müller,† and Mr. Edward Thomas has elaborated it in "The Indian Swastika and its Western Counterparts."‡

The round circle may be seen on a cross at one of the pilgrim stations in Glencolumbkille. This cross is simply a pillar stone, with these markings on



R. Welch, Photo

FIG. 1.—CROSS AT CHURCH, GLENCOLUMBKILLE, EAST SIDE.

* *Ilios*, p. 346, also n.p. 350.† See letter in *Ilios*, p. 348.‡ Quoted by Dr. Schliemann in *Ilios*, p. 353-4.

it, and I may mention that all the crosses in the Sean Glen, as it is called on the spot, are of this type, although the markings on them vary. In one, for example, squares are shown, but no circle (Fig. 1).

In this valley, which is interesting from so many points of view, rush and straw crosses are still used to guard the home from harm. A peasant woman writes to me that they are made on the night of 1st February and hung up on the following day. This would mean that they were made on St. Brigid's Day and put up on Candlemas, and I understand from Mr. Bell this is also the date on which they are made at Portlennone. In other places I have been told the rush crosses are made on St. Brigid's Eve, 31st January.* The discrepancy is very slight.

In the *Journal of the Royal Society of Antiquaries of Ireland* for 1892,† Dr. W. Frazer gives a note on "Rude Crosses made from Twigs with interlaced Straw or "Rushes." He mentions having been informed that in certain remote parts of Donegal a primitive custom was observed "of preparing small square crosses of "straw or rush which were suspended within the house for good luck, and as a "preservative against misfortune." He had been informed that these crosses were prepared about St. Brigid's Day and that it was customary before making crosses to hold a description of festival, the food being laid out upon the rushes or straw intended to be employed.

This custom is not confined to Donegal. At Maghera, Co. Derry, the supper is laid on the top of the rush crosses. At Tobermore, Co. Derry, it is eaten after the rushes have been brought in, but before they are made into crosses. The whole ceremonial is religious. At Maghera, when the rushes have been gathered, not cut, the head of the house stands outside and says in Irish: "Go on your knees and "open your eyes and let St. Brigid in." And the family reply: "She is welcome, "she is welcome, she is welcome!" I have heard of the same practice at Tohermore, and in both places prayers are afterwards said before the supper is eaten.

Dr. Frazer refers to the sacred fire, which for ages was kept perpetually burning at the shrine of St. Brigid. He mentions a cross he had obtained from Donegal, and adds: "I am disposed to regard the cross now exhibited as another survival "of an early traditional reverence for the great visible centre of light and heat—"the sun, and the smaller crosses as symbols representing the four seasons of "the year."‡

There is no figure of the cross shown in Dr. Frazer's memoir, but in a paper published in the same journal in 1908,§ Mr. Crawford has an illustration of straw crosses from County Roscommon, and points out that the shape of one of them agrees with Dr. Frazer's description. I was so fortunate as to obtain a rush cross near Buncrana, Co. Donegal, which also agrees with Dr. Frazer's description. It is shown in Pl. D.

Straw crosses are sometimes associated with St. Brigid's Day, but are more frequently made at the time of harvest, and put up as a thank-offering. I have been told that at Maghera they are not made on any particular day. According to Daniel McKenna, to whom I am indebted for much information, "When the "people brought home the meal from the mill they made the straw cross and put "it in the bottom of the barrel or ark, and tramped the meal in the ark." The ark is a strong wooden box made for holding meal, and many of them are still to be found in old houses.

* A plate of a rush and a straw cross is given at p. 17 of *Ulster Folklore* by the writer.

† Pp. 185-6.

‡ P. 186.

§ Pp. 394-6.

We thus see that the straw crosses are frequently associated with the fruits of the harvest, while the rush crosses belong to the early spring festival of St. Brigid. In an old pamphlet of 1691* we have, however, another date given. The writer says: "I went abroad into the country (near Newry), where I found the houses deserted for several miles. Most of them that I observed had crosses on the inside, above the doors upon the thatch; some made of wood, and others of straw or rushes, finely wrought; some houses had more, and some less. I understood afterwards that it is a custom among the native Irish to set up a new cross every Corpus Christi day; and so many years as they have lived in such a house as many crosses you may find. I asked a reason for it, but the custom was all they pretended to."

Mr. Bell tells me that near Portglenone and Toome the old cross is not taken down when the new one is put up. On the other hand, in one locality in County Down, I have heard of the old cross being burnt.

In County Kerry these crosses are put up on St. Bridget's Eve. Miss Delap, who lives on Valentia Island, writes that she has heard of them in the neighbourhood of Castlemaine and Kells and believes that they are also used in the west of Valentia Island. They are sometimes made of wheaten straw, but oftener of rushes, and are nailed over fireplaces, windows and doors, and put on the ends of the spars or scallops which hold the thatch in position.

It is the custom in Kerry for any children called after the saint to go round collecting pennies for the "Biddy" (a bundle of rags or an old doll), and with these pennies candles are bought in honour of the Saint.

We see the association of St. Brigid with fire and light. She had a pagan predecessor, Brigit, mentioned in Cormac's glossary, who may be regarded as a female Apollo; and who is referred to by Keating† as a poetess of the Tuatha de Danaan.

This ancient race probably began their year in May. According to Sir Norman Lockyer, this May Year, which he calls the Agricultural or Farmers' Year, preceded the Solstitial Year, and was in use before the erection of Stonehenge, whose megalithic structures represent, in his opinion, "a rededication and a reconstruction on a more imposing plan and scale of a much older temple, which was originally used for worship in connection with the May Year."‡

This very early year appears to have had four great festivals, which were observed in Ireland long after the introduction of Christianity. Cormac,§ Archbishop of Cashel, in the tenth century, states "that in his time four great fires were lighted up on the four great festivals of the Druids, viz., in February, May, August, and November." These festivals are probably older than even the Celtic Druids, and a passage in Keating's "History of Ireland" connects the August festival with Lugh, King of the Tuatha de Danaan.

The Fires of Beltaine in the month of May are well known, and the sports of Hallow Eve, which ushered in the winter season, are not yet dead.

St. Brigid's Day and Candlemas correspond with the February festival, the end of winter and the beginning of spring. We see that fire and light played an important part in these festivals, and I think we may infer that in the rush cross we have a very ancient symbol used in pagan times to represent the sun emerging from the darkness of winter. The straw cross is often small, but one fine specimen

* Quoted in *Ulster Journal for Archaeology* for 1857 (Vol. V., p. 166). This passage is referred to by Dr. W. Frazer, *Journal of the Royal Society of Antiquaries for Ireland*, 1892, pp. 306-7.

† "History of Ireland," Book I, Chap. XII.

‡ "Stonehenge and other British Stone Monuments," p. 95.

§ See "Stonehenge," p. 181.

from Toome measures twenty-two inches. In it we may see another ancient symbol of the sun at the August festival, the season of harvest. The Newry cross put up on Corpus Christi Day probably represents a midsummer festival, after the solstitial or June year had been established.

This ancient symbol was no doubt consecrated by the early Christian missionaries and given a new significance—we find it on the reverse of the shrine of St. Patrick's Bell.

I may mention that these straw and rush crosses are used in very many parts of Ireland. We hear of them in Counties Roscommon and Clare, as well as in Kerry, Down and Donegal. Probably we shall find similar emblems in other countries, and indeed in the Welcome Historical Medical Museum in London, there is a cross of St. John's wort from the Landes. I am told that in this part of France similar crosses may be seen on almost every cottage, and that the peasants put them up to prevent the entrance of evil spirits that bring ill-luck and disease. The resemblance to our Irish crosses and the customs connected with them is obvious.

I have spoken of the connection of the Tuatha de Danaan with the early May year. Notwithstanding the myths which have gathered round their history, I believe that these Danaans were an early primitive race, and may be identified with the short Danes, who are said by the Ulster peasantry to have made the raths and *souterrains*. In tradition these Danes are always short men, and their name seems to come from Danaan. I asked a woman near Carrick, Co. Donegal, the Irish name of the Danes who built the forts, and her reply was: "Whether we speak Irish or English we call them Danes." Dane is not the Irish for the mediæval sea-rovers who came from "Lochlann."

We may, I believe, conclude that we have in these rush and straw crosses an emblem which has come down to us not only from pre-Christian, but from pre-Celtic times.

I will not attempt to conjecture the date. I may state, however, that the late Mr. J. Gray, Treasurer to the Anthropological Institute, would identify the small Danes and Pechts with a short, round-headed race which migrated into the British Isles about 2000 B.C.

ELIZABETH ANDREWS.

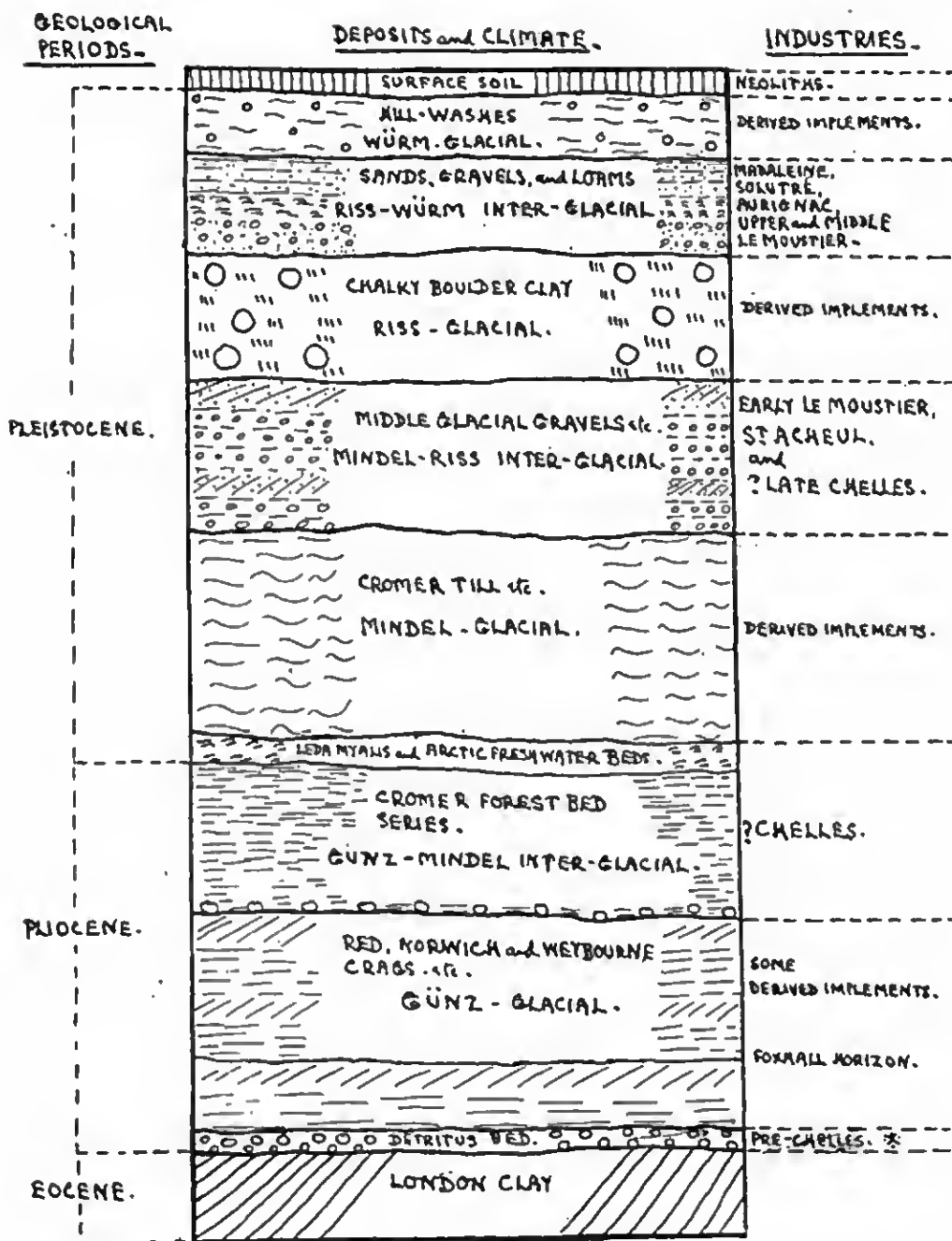
Europe: Archæology.

Moir ; Peake.

The Ice-Age and Man. A Note on Man, 1922, 5. By J. Reid Moir, 35
with a Note by H. J. E. Peake.

There can be no question as to the importance and interest of the relationship of Palæolithic Man to the glacial period, and all those who realise this will feel indebted to Mr. H. J. E. Peake for his note published recently in MAN. In this matter of the correlation of the palæolithic flint implements with the glacial deposits of England, all of us engaged upon this work are merely extending the admirable researches of Continental geologists and others, of whom Professor Albrecht Penck may, perhaps, be regarded as the foremost authority. Professor Penck's well-known work, "*Die Alpen im Eiszeitalter*," sets forth his conclusions as to the succession of the glacial episodes in the Alpine regions, and it remains for us in this country to try to ascertain if our glacial deposits are amenable to the Penckian classification. The late Professor James Geikie ("The Great Ice Age") was, I believe, one of the first investigators to attempt to solve this question, and, latterly, several English archæologists are devoting their attention to its possible solution.

In the *Geological Magazine* (Vol. LVII., pp. 221-4, May, 1920) I published my views as to the relationship of the East Anglian palæolithic and pre-palæolithic flint implements to the glacial beds of this area, and I would refer those



* NOTE. The Stone-Bed beneath the Norwich and Weybourne
Craggs rests, usually, upon the Chalk.

FIG. 1.—DIAGRAMMATIC SECTION SHOWING GLACIAL AND INTERGLACIAL DEPOSITS OF
EAST ANGLIA, AND THEIR CONTAINED FLINT IMPLEMENTS.

interested, to this paper, for the evidence in support of my conclusions. But, in order to make my opinions upon this matter as clear as can be, I am publishing with this note a diagrammatic drawing (Fig. 1) showing the various deposits (with the exception of the Coralline Crag) of East Anglia which are later in age than the London Clay. These are shown in direct superposition, but, of course, it will be recognised that this is done for clearness only, and that, though the beds are placed in their correct chronological sequence, it is not possible to find an actual exposure where such a superposition is to be seen. I would wish, also, to make it clear that, though it is doubtful if definite La Madaleine implements occur in East Anglia, I have added this industrial phase to make the series complete, and to indicate the nature of my views upon the question generally. I may add that these views are not fixed, and that I shall be prepared to alter them if further discoveries make it necessary to do so.

As regards the detritus-bed beneath the Red Crag, I would point out that, in view of the larger number of striated flints which it contains and the fact that a considerable series of foreign rocks occurs with these flints (Bell, *Proc. P.S.E.A.*, Vol. II., Part 1, p. 145), it would seem not unreasonable to assume that the deposit in question is intimately connected with glacial conditions. After a very careful examination of large numbers of striated flints from beneath the Red Crag, I have come to the conclusion that the scratches were imposed *after* the specimens were flaked and patinated, and that, in consequence, the pressure to which these flints were subjected has had nothing to do with the flake-scars to be seen upon them. And this conclusion is supported by an overwhelming mass of evidence which has been published in recent years. It is, naturally, very gratifying to me to know that my views as to the occurrence of humanly-fashioned flints beneath the Pliocene Red Crag, as well as in the Crag at Foxhall, are now supported by Professor Breuil, and other well known French archaeologists. For many years Professor Breuil was unable to agree with me upon this matter, and I regard his change of attitude as an outstanding example of devotion to scientific truth. It affords me great pleasure to pay this tribute to our distinguished French colleague.

J. REID MOIR.

I am grateful to Mr. Reid Moir for his appreciation of my note. His chart differs from mine in only one essential detail: the position of the Alpine glaciations have been moved up one stage. According to Mr. Reid Moir the Mousterian straddles the Riss, while Ohermaier has argued with much force that it straddles the Würm, and the Magdalenian immediately precedes the Würm, while Penck and Schmidt have shown that this phase extended into the Buhl. This divergence seems to require some explanation.

HAROLD PEAKE.

Gilbert Islands: Ethnography.

Grimble.

The Sun and Six. By Arthur Grimble.

The following communication may best be read as a footnote to page 36 424, Volume II, of the *History of Melanesian Society*, by Dr. W. H. R. Rivers.

In the context referred to, Dr. Rivers sets himself to consider the place occupied by the sun-cult in the religion of Melanesia and Polynesia. Discussing the secret societies of Melanesia in this connection, he points out a feature in the ritual of the *Tamate liwoa* society of the Banks Group which suggests an association with the sun. A candidate for initiation into the *Tamate liwoa* must, at one stage of the ceremonial, clasp in due order a series of six stakes of hibiscus wood, which are set in the ground along a line running from east to west. This orientation of the stakes suggests to Dr. Rivers that the movement of the candidate bears a relation to the movement of the sun, and the suggestion certainly seems the more feasible

because the candidate moves westward, towards what would appear to be a representation of his own death, just as the sun approaches his setting.

Such indications as these, especially when taken in conjunction with certain other clues mentioned by Dr. Rivers, reasonably encourage the conjecture that the organisation of the *Tamate* societies is connected with an old sun-cult. We could pass from conjecture to something like certainty if, to the evidence of the orientation of the stakes in the *Tamate liwoa* ritual, we could add evidence of a fresh sort, pointing in the same direction. The number of stakes—namely, six—will be found to afford the help we need, though we must travel to Polynesia and Micronesia for our clues. These are chiefly to be discovered in the stories of the famous Maui-cycle.

It will be remembered that one of the three capital exploits of the culture-hero Maui in Polynesian story was to enmesh the sun in a noose, and so to cripple him that, for ever after, he travelled less swiftly across the heavens. Thus day was lengthened.

This tale is told, with slightly varying details, in nearly every group of Polynesia, but only one of its versions needs hold our attention here. It is that recorded by Wyatt Gill from Manihiki,* in which Maui (under his alternative name, Ti'iti'i) is said to have taken six nooses for the sun's enmeshment. This apparently trifling numeric detail, being recorded in the version of but a single Polynesian community, stands in danger of being regarded as an unessential local accretion. That it is, however, far more than this, is fortunately demonstrable by reference to the mythology of the Gilbert Islands. There, the noosing of the sun is attributed to a certain Bue, the story of whose exploit belongs, without any doubt, both generically and genetically to the Maui-cycle.† The Gilbertese rendering lays a very particular emphasis on the number six. In its account of Bue's preparations for entrapping the lord of light, it tells how he made ready six weapons of offence. Some of these were missiles; the sixth and last was a coconut leaf, with which the sun was eventually caught and bound.‡

The idea of the six weapons in Gilbertese story is obviously of common origin with that of Maui's six nooses in the Manihiki version. The presence of so curious a detail in two versions of the episode, collected from groups so widely sundered as the Gilbert and the Cook Islands, is a hall-mark upon its authenticity, and a positive proof that, although it may have been forgotten in other parts of Oceania, it was once an essential part of the Maui sun story. This certainly has the effect of associating the number six with the sun in our minds. As if to supply a clinching argument in favour of such an association, the Gilbertese version gives us a very interesting account of certain "stopping places" of the sun. These numbered six. There were three below the eastern edge of the sea and three above. On each of them in turn the luminary was said to rest a while as he made his progress westwards. Thus the number six interfered with the very course he ran. Given two ideas apparently so incompatible as that of a numeral and that of a heavenly body, it would be difficult to associate them more intimately than this story succeeds in doing.

* *Myths and Songs from the South Pacific*.

† An extract from this story appeared in MAN, 49, 1921. But as I was not yet alive to the sun-six connection when exhibiting the extract, I omitted several passages very pertinent to the present issue.

‡ The Dusun of North Borneo have a cosmogonic myth which relates that the sky was originally very near the earth, but retreated when six of the seven primeval suns had been killed; cf. Evans, *J.A.I.*, XLIII (1913), p. 433. This tale of conflict with six suns would seem to be but another presentation of the six efforts of Maui—with noose or missile—recorded above. It should be remembered that the lifting of heaven was another of the exploits attributed to Maui in Polynesian story.

Lastly, there is the evidence of the Nui* creation story. According to that myth, there lived in the first cleaving together of heaven and earth six creatures. The sixth was Baka-uaaneku, the Great Ray, from whose eyes the sun and the moon were fashioned.

From the above summary of our material, we may therefore tabulate three distinct aspects of the relationship between the sun and six :

- (a) In the Manibiki and Gilhertese Maui-tales, the number appears as a source of power for the sun's undoing;
- (b) In the Gilhertese version, it further appears as a guiding influence in the daily course of the light-giver;
- (c) In the Nui creation-myth, it is intimately mixed up in the theory of solar origins.

Concatenations so curious could not have been the result of informal development; they must have grown within a cult. On the evidence produced, we may, in fact, assume that the folk responsible for these myths practised a sun-cult; and that one of their religious beliefs was that the sun's origin, movement, and well-being depended upon the peculiar virtues residing in six.

This lends so significant a character to the number that wherever, amid the tangle of Oceanic cultures, we chance upon a ritual that is plainly influenced by six, we may reasonably suspect the presence of a sun-cult. And when we find that the number dominates a ceremony, of which several other features also seem to connect it with the sun, our suspicion may well develop into certainty.

In the ritual of initiation into the *Tamate Iiwoa* society of the Banks Group, the orientation of certain stakes, and the action centring upon them, are features which of themselves encourage the conjecture that a sun-cult is here represented. Add, then, the fact that these suggestive stakes, which run from east to west, are six in number, and the case, as I think, is in no further need of proof. One is indeed tempted to believe that one has found the key to the whole ceremony; that the six stakes of hibiscus wood stand for the sun's six "stopping places" mentioned in Gilhertese myth; and that the candidate for initiation, who passes westward along them, is himself for the moment a personification of the sun, progressing towards his daily death.

The general question of the sun-six association merits research. Its singularity guarantees it to be the mark of a distinctive culture, and as such it may yet prove to be a most valuable clue to culture-migrations in Oceania. It interests us particularly in its probable relation with those people whom Dr. Rivers distinguishes by the name of "Kava people." These he reasonably supposes to have been responsible for the ritual of the secret societies of Melanesia. Therefore, if we find the sun-six concatenation to be a guiding motive of such a society as the *Tamate Iiwoa*, we may with equal reason attribute it to the Kava people. It becomes, then, extremely probable that to the influence of the Kava people may be assigned all those myths which show the sun and six in conjunction; and, as it is clearly to be inferred from the material which I have discussed that the Maui myths once had this singular feature, we may proceed to the deduction that, wherever the Maui sun-tale is told in Polynesia, thither the culture of the Kava people must have spread. It is difficult to over-estimate the value of the sun-six clue in dealing with groups of islands like the Gilberts, where, through the accidents of time and environment, the other distinguishing characteristics of the Kava-culture have been lost.

ARTHUR GRIMBLE.

* Nui is in the Ellice Group, but its population is Gilbertese in type, language, and social organisation.

Papua: Betel.

im Thurn.

Piper methysticum in Betel-Chewing. By Sir Everard im Thurn, **37**
K.C.M.G., K.B.E., C.B.

Mr. Chinnery's note* is interesting, but I think he is mistaken in identifying the "*pingi*," which is one of the ingredients used in betel-chewing by the natives of certain parts of Papua, as the "*kava*" (or, as it is called in Fiji, "*yangona*") plant, which is *Piper methysticum*. The true kava plant is an upright-growing shrub, with branches particularly brittle, in the sense that they easily snap at the swollen nodes; there is an excellent drawing of it at page 72 of Miss Gardner King's "Islands Far Away." Certainly a plant of this habit could not be described as "a creeping plant, which clings to trees in the gardens and villages"; nor could "the leaf, fruit, and portions of the stem and root" have been found "neatly coiled and tied together like a holt of rope" in the native policemen's swags. Again, hospitable natives could not provide their guests "with a coil" of this plant; and—I have probably consumed more "*yangona*" than most Europeans—I have certainly not found "its flavour bitter and hot," as Mr. Chinnery did that of the *pingi*.

It is possible that true kava (*Piper methysticum*) is occasionally used for chewing with the betel-nut; but my own experience makes me pretty sure that the *pingi* which Mr. Chinnery saw used was a quite different pepperwort, which is distinctly of a climbing, or rather a clinging, habit. It may have been either the well-known *Piper betle*, L., or the "*wa-gawa*" ("climbing yangona") of the Fijians. This last-named plant was described (in M.S.) by M. Cassimir de Candolle as *Piper insectifugum* (Seemann, "Flora Vitiensis," p. 262); this is botanically akin to the true kava or yangona, but entirely different in habit of growth. Perhaps the best idea of this difference in habit may be given by saying that true kava grows like an elder-bush that has been "hard cut back": whereas the "climbing kava" is like ivy which has grown up a tree and has then sent out a few loose-hanging branches.

EVERARD IM THURN.

Obituary.

Temple.

Mansel Longworth Dames. By Sir Richard C. Temple, Bt., C.B., **38**
C.I.E.

Mr. Dames, a Vice-President of this Institute and long a member of its Council, passed away somewhat suddenly on the 8th January, 1922, shortly before his 72nd birthday. He was of a singularly retiring disposition, but nevertheless always desirous of helping on scientific research wherever he could. Consequently he did not contribute much to the pages of the *Journal* of the Institute, although he wrote many reviews of books for MAN. He was, however, an Oriental scholar of unusually wide knowledge, which his wonderful memory rendered extraordinarily accurate. His knowledge of things Indian was deep and wide, as is testified by his great work for the British Museum in arranging the collections representing the Hindu, Buddhist and Jain religions in the new buildings. This was done with an assiduity, skill and knowledge that is almost unrivalled.

Dames was a great linguist in Indian and Oriental as well as in European languages, and a widely travelled man. This capacity for acquiring languages was exhibited in an admirable degree in his remarkable edition of the "*Book of Duarte Barbosa*" for the Hakluyt Society—a model of what such editions should be. *Inter alia* it showed his intimate acquaintance with Portuguese, in addition to a wonderful general Oriental knowledge. In this he was, however, helped by his wife, who was the daughter of the British Consul at the Azores.

He was a Vice-President also of the Royal Asiatic Society, for which he did much whenever required, and produced some invaluable volumes on the race he knew best, the Baloches; and for the Government he wrote a Baloch grammar and text-book, which long held the field. His knowledge of the Afghans and their country was almost unique, and no one was more qualified to write that history of them which is still so badly wanted. His collection of Græco-Buddhist art from the old Gandhārā country (about Peshawar) was remarkably fine, and no one could explain it better than he. It was exhibited for two years in South Kensington (1903-4), and, alas! went to Berlin in 1906 because London could not buy it.

Dames was a learned numismatist, as his contributions to the Journal of the R. Numismatic Society shows, and he had a remarkable collection of coins, chiefly Græco-Baktrian. He was an earnest student of the customs of the East and contributed much to the *Folklore Journal*. His "Popular Poetry of the Baloches" will



MR. LONGWORTH DAMES.

remain for ever a mine of information on the language, stories, customs and beliefs of that people. Added to this he had a well-informed knowledge of architecture, which he had seriously studied; and all his life a great love for, and, owing to his retentive memory, a profound knowledge of English literature. He loved to wander about England whenever he could, and his acquaintance, amongst other things, with Natural History made him a delightful companion on such occasions. As his long service in India was nearly all on the N.W. Frontiers he was necessarily thrown among Muhammadans and his contributions to the "Encyclopædia of Islam" were the result of his ceaseless study of them, their customs and their religion.

Dames was, nevertheless, no pedant, no scholar of the midnight oil, but a man who carried out his duties for years as a superior officer of the Indian Civil Service in that active manner which made him know the people he was placed over. So much so that he was often called in by the Baloch chiefs to settle their tribal disputes. Thus did they tacitly admit his practical knowledge of them and their ways of thought.

I knew Dames all his adult life. We went to the East about the same time and studied much the same things, though the fortune of Government service carried me much further afield. But we collaborated together as long as forty years ago, and he afterwards gave me his willing assistance from time to time right up to his death. Just before he died I had hoped for his advice and assistance in some projected volumes for the Hakluyt Society. In him I have lost not only an old friend, but one to whom I could look with confidence to keep me from making errors in matters within his ken. The loss is not mine alone, but that of everyone who had reason to work with him. Always kindly, always courteous, always helpful out of a well-stocked mind, he was of that type of English gentlemen who have made the old Indian Civil Service the great power in the East of which the nation has been so justly proud.

R. C. TEMPLE.

Totemism.

Eating the Totem. By H. J. Rose.

I venture to offer a suggestion on a point which does not seem to me ever to have been very convincingly explained. The puzzle is familiar enough:

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why is it that (1) the totem, if edible, must normally not be eaten by members of its clan; (2) it nevertheless is eaten, and generally must be eaten, by members of that clan at *intichiuma* ceremonies; (3) the *alcheringa* ancestors are represented as very commonly, though not invariably (see Spencer-Gillen, p. 209) eating their totems?

Sir J. G. Frazer has a very ingenious explanation of (1) and (2); people do not usually eat their totems, because it is a sort of cannibalism, and they occasionally eat them by way of sacrament (*Totemism and Exogamy*, I., 116 ff.; a further reason for not eating would be that it would make the animal—or plant—members of the clan less mistrustful of their human fellows, p. 122). But I venture to think that these points may be equally well explained, and (3) accounted for, in a quite different way.

It is well known that the human members of the clan, when they do eat the totem, eat it very sparingly, i.e., insufficiently to satisfy hunger. With reference to members of other clans present at the *intichiuma*, they may and do use phrases indicative of satiety, as "you have eaten much food," but not with regard to themselves. Moreover, those who come to the ceremony must come fasting: a precaution which may indeed have as its origin the desire not to let the sacramental meal mingle with other food, but may also simply mean that they must come hungry (see Spencer-Gillen, ch. VI., *passim*, for examples; I confine myself to Australian evidence as being supposedly the nearest approach we have to the primitive forms of belief and ceremony in this matter).

Now "homœopathic" or imitative magic is very well known from Frazer and other writers; we are, perhaps, in danger of forgetting that there is another kind which works on just the opposite principles. Instead of pretending to have what one wants, in hopes that the imitation will produce the reality—e.g., throwing water into the air to make real rain fall—a common method is to create a vigorous demand for the desired article in some person or thing so full of *mana* that his desires are likely to be effective in producing a supply. Horace describes a love-charm of great power prepared as follows: take a young boy (the magic potency of children is well known); starve him to death in sight of food; as soon as he is dead, extract his marrow and his liver (the seat of desire), and compound a love-potion with them (*Epod.* V., 32 ff.).* To bring on rain, put a god or a saint out in the hot sun (examples in *Folk-Lore*, Vol. XXXII., p. 98). In order, then, to make kangaroos come is it not a good plan to make sure that a man, for choice a kangaroo-man, is very hungry?

I suggest, then, the following explanation of all the above points: (1) Theoretically the human members of a totem-clan regularly eat their totems and nothing else, but never eat their fill of them, and so are always hungry. (2) They really do follow this rule when they appear in their official capacity at *intichiumas*. (3) The *alcheringa* ancestors, i.e., the ideal clansmen who were completely identified with their totems and regularly lived on them, always behaved in this way.

I leave those who are better acquainted than I with totemism to test this suggestion.

H. J. ROSE.

REVIEWS.

Physical Anthropology.

Giuffrida-Ruggeri.

Su l'Origine dell' Uomo. By V. Giuffrida-Ruggeri, late Prof. General Anthropology, Univ. Naples. Hon. Fellow Roy. Anthr. Inst. Bologna: Zanichelli. 1921. Pp. xiv + 272. 24 Figs., 24 × 16 cm. Price l. 24.

This most welcome gathering-together of some of this distinguished worker's conclusions will be received with a note of sadness in that the news of his death has

* Intense desire would seem to be magically potent for any purpose, see W. G. Aston, "Shinto," p. 344.

reached England just as this review was in course of preparation for the press. Giuffrida-Ruggeri had read widely and to great purpose, and was a careful thinker, never given to wild views. To this he added a courageous originality and a power of following out detail. He thus has a claim on the attention and respect of anthropologists the world over, a claim which is hardly surpassed in our day. In this book, Giuffrida-Ruggeri gives his refutation of some of the wilder theories current as to the origin of man. He then proceeds to argue for the monophyletic origin of man and states his belief that the Heidelberg jaw, the Piltdown skull, the Gibraltar skull, and the Neanderthal type (especially La Chapelle aux Saints) give us four types near to, but outside, *Homo sapiens*.

He thinks the Piltdown jaw is not connected with the skull, and thus shows agreement with several of the American workers. The Heidelberg specimen, he thinks, shows partially developed taurodontism and this character he claims is a specialisation of *H. neandertalensis*. He dissents from Sir Arthur Keith's view that taurodonts were vegetarians and believes all early men were omnivorous, but he is not inclined to give much weight to tooth characters save within small limits. In adhering to the idea that Asia was man's cradle he nevertheless throws out hints that N. Africa needs to be considered. The Simiidae seem to him to be just as clearly related to conditions south of Himalaya as were early men to more northerly regions. There, conditions favoured development of carnivorous diet, terrestrial life, and erect posture with appropriate facial, and especially nasal, adaptations; Central Asia was then less high and less dry than now. In passing one may note that when he tries to deal with questions of ancient climate the author is not on his usual high level and his scheme of upper Palæolithic periods and conditions is not quite abreast of the times; but this has very little bearing on the book.

In dealing with *Homo sapiens*, neanthropic man, the author attaches much importance to the Combe Capelle skull, though in dealing with other aspects of Klaatsch's work he is very severe on that author. It has been argued that Klaatsch's name casts doubt on the skull's reconstruction; but it should be remembered that he made that skull a good deal like Ofnet 21 and various other ancient skulls little known at that time, as well as like the rather rare but widely-scattered hypsistenocephals of the present day. This is some ground for paying attention to the skull, and, at all events, Giuffrida-Ruggeri considers the reconstruction a serious one, and emphasises the distinctness of the type it represents from that of Cro-Magnon.

For Giuffrida-Ruggeri the first "spread" from the Central Asiatic Pro-bominidae includes the Australians, Melanesians, Ainu, Veddas, Dravidians, *Homo Aurignacensis* (Combe Capelle) and an element penetrating down East Africa. He has a long discussion of the Talgai skull, which, he thinks, shows features of a forerunner of both Tasmanians and Australians. The second "spread" is that of the Grimaldi type with its relatives the negroes, pigmies and bushmen, and he takes the Malaysian pigmies and Papuans as a wave of this stock from Africa back to the Orient. With these two spreads he contrasts that of the Leucodermi or Occidental man, including here Cro-Magnon man, Mediterranean and Nordic man and the Indo-Iranians. Whereas these Occidentals are supposed to have developed on the western side of the cradle, there appeared on the eastern side the Xanthodermic, including Mongols, Amerinds, Eskimo, Indonesian and Polynesian elements, etc. In the concluding chapters the author develops the view that domestication is one of the main factors of variation in our species, and throughout the work one finds traces of the effort to realise that we are dealing with varieties fertile *inter se* even if the author is here and there still in bondage to old views about the separateness of races and does not quite realise the bearings of his own work emphasising the need for study of individual characters. Various combinations of individual characters, each of which characters

has its own distribution, go to make up our so-called racial types. Character A may be combined with characters B and C in one type and with characters D and E in another, and some other type may combine B and D and so on, and we probably get nearer the truth about evolution if we think of the spread of character as a more vital matter than the spread of type. It would seem that Giuffrida-Ruggeri unnecessarily emphasises the separateness of *H. aurignacensis* and the Grimaldi skulls from the Mediterranean type, though he agrees that these are elements contributory to it. It seems more simple to think of a dolicho-hypsistenocephalic type of skull widely distributed and evolving towards Nordic and Mediterranean and other types in various regions. For Giuffrida-Ruggeri the high orbit, narrow nose and orthognathism of the Chancelade skull remove it very far from the Combe Capelle, though both are hypsistenocephalic, and the author emphasises the kinship of Chancelade man with the Eskimo. Anthropology is much indebted to the author for his destruction of the legend of a "Cro-Magnon race" made to include nearly all the men of the upper Palæolithic. Enough has now been said to give Giuffrida-Ruggeri's general position and to reveal the great interest and importance of his general survey of racial problems in mankind.

H. J. FLEURE.

Folklore.

Fleming.

Ancient Tales from many Lands: a Collection of Folk Stories. By R. M. Fleming, with an introduction by Professor H. J. Fleure, D.Sc. London: Benn Brothers, Ltd., 1922. Pp. 193, illustrated. 10s. 6d.

Folk tales and traditions are like dreams. Some defy explanation, but many have a kernel of hard fact, more or less hidden by fantastic form and grotesque imagery. In such instances the embellishment and ornament have been, in many cases, elaborated as the tale has been told from the dim "before-time" through the ages. The underlying, or rather incorporated, truth is often, as it were, one drop of essence distilled from an epoch of great events in the life of the people. The relation of tradition to geography and history are ably and suggestively discussed by Miss Fleming in the second part of her book and elaborated in the first part by the selection of the stories and traditions themselves.

The thirty-three stories which go to form this collection of ancient tales from many lands have each their special features. The authoress has not been content to tell the story, but has given the atmosphere and the setting by incorporation within the narrative of the special conditions and relations of each. They are, therefore, more than folk-tales and traditional stories. They represent extensive study of comparative folklore, combined with a knowledge of pre-history as revealed by modern archaeological research. The stories are thus placed in their geographical setting and historical relationships, for which purpose the numerous excellent illustrations render valuable assistance.

The book will appeal, not only to the folklorist but to the general public, and especially to teachers, who will welcome a collection of stories selected for their intimate association with geographical conditions and historical events. To such the short bibliography and the appendix on the selection of tales with suggestions for schemes and stories for teaching purposes will be invaluable. Miss Fleming is to be congratulated on bringing the results of wide reading in several related subjects into such a useful collection of traditions and folk tales.

W. H. BARKER.

Egypt: Archæology.

Wiedemann.

Das alte Ägypten (Kulturgeschichtliche Bibliothek). By A. Wiedemann. Heidelberg: Carl Winter's Universitätsbuchhandlung. 1920. Pp. 446. Price, M. 20.

Professor Wiedemann has succeeded in compressing, into less than 430 pages, an extraordinarily detailed and accurate account of the civilisation of ancient

Egypt. He writes in a clear straightforward style, and every statement is supported by references; this makes the book exceptionally valuable as every point can be verified.

Professor Wiedemann has divided his subject into fifteen sections, each of which is subdivided under appropriate headings. Thus under the section Handicrafts, the subdivisions are: textiles, glass, pottery, brickmaking, carpentry, metalwork and stonework. This makes reference extremely easy, and the information given is always reliable.

The book, however, has the defects of its qualities. As a handbook of archaeology it will easily challenge comparison with Erman's *Ägypten*; but within so small a compass it is impossible to treat any subject broadly. There can be no tracing of the development or decadence of customs, institutions, arts or ritual; no discussion of the rise or fall of religious ideas; and naturally all points, which are still matters of controversy among scholars, are either lightly touched upon or omitted altogether. The whole of the Egyptian religion is compressed into six pages, which can hardly be considered adequate for so important a part of the life and culture of the ancient Egyptians. No new facts are added to our knowledge, but the book gives in an easily accessible form the information which has hitherto been scattered in various publications, and the careful references make it possible to look up the originals whenever necessary. Scattered throughout the texts are line-drawings of varying merit, but here Professor Wiedemann is not always careful to give the reference. This is the more unfortunate as illustrations are often more important than descriptive text. At the end of the book are 26 photographic plates of well-known sculptures, paintings, and various objects.

The book is a storehouse of information, and should be on the shelves of every library either of anthropology or of Egyptology. No student of either subject can afford to be without it.

M. A. MURRAY.

East Africa: Ethnology.

Lindblom.

The Akamba. An Ethnological Monograph. By G. Lindblom. (Vol. 17 of Archives d'Etudes orientales.) Upsala: Appelbergs Boktryckeri Aktiebolag. 25 x 17 c. Pp. 607. **43**

It is not easy to over-estimate the importance of this contribution to the anthropology of East Africa. Comparatively little—especially considering the importance of the tribe and their proximity to Nairobi—has been written about the Akamba; and the valuable work of Messrs. Hobley and C. Dundas has admittedly left many points incomplete. Dr. Lindblom's notes chiefly refer to the people near Machako's, in Ulu, the western part of the Kamba country, and any apparent discrepancies between his statements and those of Mr. Dundas referring to the eastern district of Kitui, are probably to be explained by local differences of usage. He is quite right in saying that he "found among them a "practically untrodden field of work."

It is a pity that Dr. Lindblom has made his transcription of native words and phrases somewhat difficult to follow by adopting a script which will probably be unfamiliar to most of his readers outside Sweden, and which we understand to be the Swedish dialect alphabet. Admitting the unscientific character of the orthography used,—e.g. in Mrs. Hinde's *Vocabulary of Kamba and Kikuyu*—the International Phonetic Association's alphabet and the "modernised Lepsius" used by Brutzer and other German writers were surely possible alternatives.

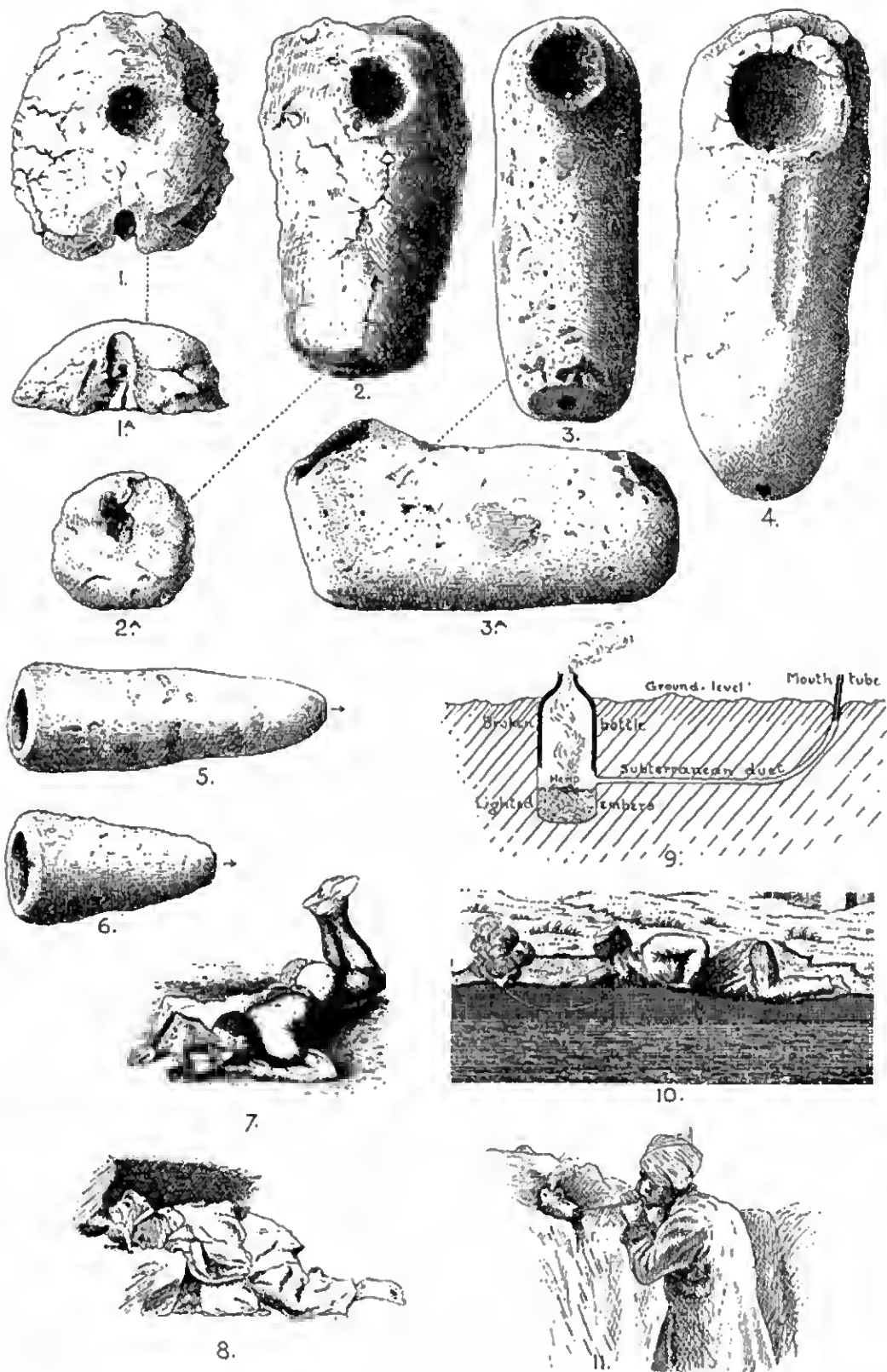
The chapter on "Circumcision and Initiation Rites" is the fullest account hitherto published. The instrument called *mberani* (?), used in the "third *nzako*," on the principle of the Australian bull-roarer, recalls in some respects the

double flutes (*fufuriye*) of the Pokomo, avowedly borrowed from the Wasanye. But so far as I am aware, nothing is yet known of the ceremonies connected with the latter. Dr. Lindblom says: "The Akamba have no secret societies, and even "if those who have passed through the third *nzaiko* experience a certain feeling "of affinity, yet when the ceremonies are once over, this feeling obtains no "practical expression—that is to say, that, unlike the secret societies, it plays "no rôle in their economic and political life" (p. 69). A little further on, Steinmetz is quoted as saying that the Pokomo have "organisierte Geheimbünde, "deren Zweck ist, den Einzelnen zum Mann zu machen." It may be doubted whether the Pokomo have secret societies in any sense in which the Akamba do not possess them, and whether the *Fufuriye* and the kindred mysteries of the *Mwanza* play any greater part in the tribal life of the former than does the *Nzaiko* in that of the latter. The system of ranks or age-classes, to which admission is obtained by payment, and which has nothing to do with initiation or circumcision (the latter is not practised by at least half of the Pokomo) is very similar in both. Whether "secret societies" is the right term to describe the cognate institutions of the Giryama, may also be questioned.

The careful notes on totemism (pp. 113 *et seq.*) are peculiarly interesting. One notes (pp. 127, 213) that the python and the wild cat, neither of which is a totem animal, are treated with reverence, as possible re-incarnations of ancestral spirits. The case of the python, which elsewhere (*e.g.*, among the Awa-Wanga) receives something like regular worship, may be compared with that of those snakes which are reckoned by the Zulus as *amadhlozi*. These snakes may be of various kinds, but not every individual of these kinds is an *idhlozi*—only such as, by their behaviour, suggest that they belong to the family. I do not remember the python (*inhlatu*) being expressly named as an *idhlozi*, but the large snake which, as I have been informed, once took up its abode in Bishop Colenso's garden and was by the natives regarded as the avatar of a deceased Zulu king, may have been a python. The wild cat (*impaka*) has also an uncanny reputation among the Zulus—but this is as a wizard's familiar, like the leopard, the baboon and the owl.

On p. 136 the porcupine is given as one totem of the Anthunthu clan (No. 23). The remark on p. 128, where it is included "as regards some people" "among "animals which, although they are not totems, may not be killed or eaten," no doubt applies to clans other than the Anthunthu. Dr. Lindblom thinks that "this animal's peculiar covering places it in a unique position," but there is evidence that several Bantu tribes (*e.g.*, the Wahehe and the Wakulwe of S. Tanganyika) seem to connect the porcupine in a special way with the world of spirits—an idea easily accounted for by its nocturnal and burrowing habits. The *hammerkop* of South Africa (*Scopus umbretta*) is dreaded by the Akamba, but nothing is said to show whether they connect it in any way with thunder and lightning, as do the Basuto.

Dr. Lindblom is probably right in doubting (p. 213) the validity of "the "theories that would trace the totemism of the Bantu people to the belief that "the souls of the dead take up their abode in animals." Very interesting evidence on this head (though it is not clear whether the author always recognises the bearing of his facts) is to be found in Gutmann's *Dichten und Denken der Dschagga-Neger*. The Akamba, by-the-by, hold that the elephant cannot die a natural death. This belief does not seem to be shared by the Wachaga, who say there are certain caverns where elephants retire when they feel their end approaching. "The praying mantis" is used by the male spirits as a snuff-box. Beliefs about the mantis have never yet been systematically recorded, except in the case of the



H. Balfour del.

EARTH SMOKING-PIPES FROM SOUTH AFRICA AND CENTRAL ASIA.

ORIGINAL ARTICLES.

With Plate E.

Africa, South and Asia, Central.

Balfour.

Earth Smoking-Pipes from South Africa and Central Asia. By **45**
Henry Balfour, M.A.

While searching for early types of South African stone implements on the banks of the Zambesi River and elsewhere, in 1905, 1907 and 1910, I occasionally happened upon other objects of interest of a totally different character. Among these are two of the objects figured on Plate E, Figs. 1 and 2. These are examples of the improvised earth-pipes which are widely used in South Africa for smoking either tobacco or hemp, when portable pipes are lacking, or when hemp-smoking has to be practised surreptitiously. The employment of these earth-pipes is, of course, well known, not only in Southern Africa, but also in the mountainous districts of North India and other adjacent Central Asiatic regions. There are, however, certain points connected with this smoking practice which are worth enlarging upon.

Firstly, as regards SOUTH AFRICA—There are two principal types of earth-pipes employed in this region: (a) pipes built up *on* the ground-surface, and (b) excavated pipes, i.e., formed *below* the surface. Of the former type the specimen shown in Fig. 1 is a good sample. I found it on the bare ground about 100 yards from the left bank of the Zambesi, and half a mile above the Victoria Falls, in September, 1910. It consists of a little mound of red earth, moistened with water (or, as frequently happens, with urine) and scraped together into a heap, like a child's "mud-pie," from the sandy surface-soil. It is about 3 inches by 2½ inches in area and 1 inch high. The under surface is flat, having been attached to the ground; the upper surface is convex. While the little earth-mound was still moist, a pit was sunk in the upper surface to form the "bowl," and a duct was formed by withdrawing a grass-stem, or similar object, which had been purposely imbedded in the mass. This duct runs horizontally from the bottom of the "bowl" to the hinder end of the mound, where it emerges in a slight semicircular recess formed by pushing a stick down the moist earth near the periphery (Fig. 1A). When suitably shaped, the mass was allowed to dry in the sun—a quick process in the dry season—and the improvised sun-baked mud-pipe was ready for use. It was probably made by one of the MaKalanga natives imported into the district as labourers. Tobacco, not hemp, was smoked in this example. The mode of smoking such a pipe, built up on the ground, is well illustrated by T. Baines ("Explor. in S.-W. Africa," 1864, p. 204). His figure of a Bechuana native smoking is reproduced in Fig. 7. A very similar figure is given in Rev. J. G. Wood's "Nat. Hist. of Man," 1874, I., p. 180. The latter's description suggests a pipe with a duct of considerable calibre, as, in forming this, the earth was piled up over a spear-shaft, which was then withdrawn to form the duct. Dr. L. Schultze ("Aus Namaland und Kalahari," 1907, p. 627) describes the making of such ground-pipes by Bechuana natives of the Southern Kalahari, who smoke hemp in them. The clay is moulded in the form of a small loaf. At one end a pipe-bowl is hollowed out, and from the bottom of the bowl a horizontal duct extends, into which a straw is inserted, serving as a mouthpiece. When the pipe is charged with hemp, the smoker fills his mouth with water, kneels down and draws in the fumes with long pulls, thus improvising a rudimentary water-pipe or hubble-bubble. The foregoing pipes all remain attached to the ground while in use.

Fig. 2 shows a very rough, crudely-shaped pipe, also made from mud (blackish) in the manner described; but it differs from the previous example (Fig. 1) in having been detached from the ground after drying in the sun, for use as a portable pipe.

It has been used, no doubt surreptitiously, for smoking *dakka* (hemp), some of the partly-carbonised seeds of which still remain in the "bowl." It is about $4\frac{1}{4}$ inches long and is very thick. The mud of which it is made contains bits of grass and husks. The duct has been clumsily formed by withdrawing some object which had been imbedded in the mud mass. The orifice is seen in the end view (Fig. 2A). I found this pipe on a rock-ledge in the railway-cutting close to the Victoria Falls bridge, on the left bank of the Zambesi. It represents a second developmental stage, in which the rude mud-pipe, built up on the ground, has been subsequently detached, so as no longer to necessitate the smoker's lying flat upon the ground.

Fig. 3 illustrates a further development of the portable-pipe from the ground-pipe. This specimen was collected in the Ladysmith division of Cape Colony and was given to the Pitt Rivers Museum by the Rev. Dr. Watson. Unlike the preceding examples, it was not built up on the ground, though clearly modelled upon the earth-pipe and derived from it. It is made of clay, moulded by hand into a massive, sausage-shaped form, $4\frac{3}{4}$ inches long, $1\frac{1}{2}$ inches wide and $2\frac{1}{2}$ inches high at the centre. A large depression at one end forms the "bowl," the upper surface of the clay rising somewhat to the hinder margin of the "bowl," as seen in the profile view (Fig. 3A). The horizontal duct from the bottom of the "bowl" opens at the opposite end of the mass and is more neatly formed than in the rough ground-pipes. The under surface is rounded instead of being flat, as in the pipes made upon the ground. After having been shaped the mass was coated with a "slip" of dark-brown clay, which has mostly weathered away, except around the mouth-piece and in patches elsewhere. The pipe was then baked and not merely sun-dried. There are some unconsumed remains of hemp in the "bowl," showing that the pipe was used for *dakka*-smoking. Although this pipe is definitely made to carry about, it cannot be held in the mouth, since it is far too heavy (15 oz.) and there is no stem which can be gripped by the teeth. In smoking, the lips were applied to the hinder end, covering the duct-orifice. The method of smoking is, in fact, the same as in the case of the prototypes of this portable form, but it is no longer necessary to crouch down to the pipe.

The second principal type of earth-pipe in South Africa is one formed by excavation *below the surface of the ground*. A simple form of underground pipe is described by Dr. F. Fulleborn* as used in the Ungoni region of South Nyassaland. A little pit is made in the ground to serve as "bowl," or tobacco-holder, and a duct is formed by forcing a stick into the ground so as to reach the "bowl." The smoker, of course, must lie down flat in order to apply his lips to the smaller orifice. Men, women and children all use this method. As the WaNgoni were migrants from the south, an offshoot from the Zulus, it is possible that this laborious smoking method was introduced by them. At any rate, this method is widely-spread to the south of the Zambesi. Dr. Moszcik,† describing how *dakka* is smoked by the southern natives, says that a prevalent method is as follows. Two pits, about 8 cm. deep, are excavated in the ground, the bottoms of which are united by a groove of about a span's length, formed by removing the earth between the pits. Some moistened straws or rushes are laid along the groove, their ends projecting from both pits. The earth is then replaced in the groove and firmly pressed down and, after a short time, the straws are withdrawn, a duct being thus formed. A hollow tube is stuck into one of the pits to act as mouthpiece and prevent particles of earth entering the smoker's mouth. Hemp is then placed in the "bowl" and kindled. A little water is poured into the duct and the native lies flat or kneels down and inhales the smoke through the water. Dr. Moszcik reproduces a photograph, but the details are not clearly shown.

* "Das Deutsche Njassa- und Rowuma-Gebiet," 1906, p. 158.

† Internat. Archiv für Ethnographie, XIX., 1919, p. 164.

A slightly elaborated variant upon this subterranean pipe is described in the *Illustrated London News* of 30th September, 1911, p. 525, and forms the subject of a clever illustration by R. Caton Woodville of Kaffirs smoking opium through an improvised ground-pipe. A hole is sunk in the ground and into this is inserted a bottle from which the neck and bottom have been broken away. The upper part of the bottle projects slightly above ground. In the pit, below the lower end of the broken bottle, are placed glowing embers, and upon these the opium. A duct runs horizontally from the pit, or "bowl," and reaches the surface some two yards away. A short tubular mouthpiece is inserted in the duct-orifice. The smokers in turn bend down and inhale the smoke through the mouthpiece. I understand that hemp is similarly smoked by the Kaffirs. The sectional diagram, Fig. 9, is based upon the above description.

Now, turning to CENTRAL ASIA, we find that closely similar smoking practices obtain in the mountainous districts of North India and in adjacent regions to the north and west.

A type of earth-pipe used by natives of Kashmir, and identical in construction with the South African type of which Fig. 1 is an example, was figured and described by Mr. E. Lovett in the *Illustrated Archaeologist*, September, 1894, p. 100. One of the specimens, carefully detached from the ground and sent to him by a friend, was forwarded to me by Mr. Lovett and is shown in Fig. 4. When the natives were camping near a stream they "built up with their hands, of the red, loamy material forming the kind of delta banks, in places where the streams ran more level, little elongated mounds, which they smoked. These little mounds were from 5 to 6 inches long, about 2 inches wide at the base and about 1½ inches high and, forming as they did a mere elevation of the clay bank, were really pipes of which the whole world may be said to form a part." A bowl was sunk at one end and a stick, straw or reed was pushed up from the other end to form the duct. As is shown in one of Mr. Lovett's illustrations the smoker kneels down and, bending over, applies his lips to the orifice at the small end of the mound. Apparently, hemp is not used, but leaves of trees mixed with dried camel dung furnish the smoking mixture. Mr. Lovett adds: "Should there be a number of bearers together, and should they be especially sociable, they construct a large common pipe in the same manner, but in the form of a crater and cone, around which they all sit, each with a hollow reed inserted through the side of the 'crater,' which is filled with the aforesaid 'mixture.'"

Referring to some of his Astori coolies, from Astoria, Baltistan, Mr. E. F. Knight* says: "they had no hookah with them, so contrived to make a pipe after the most primitive fashion known to smokers, and which prevails in wild parts of America, as well as in Asia. A little mound of earth was piled up, and then well patted down with the hands to make it firm. Into this mound a stick was then thrust horizontally for 6 inches or so. A hole was next bored with a finger through the earth, just above the innermost end of the stick, and this hole formed the bowl of the pipe, and was filled with tobacco. Lastly, the stick was gently withdrawn, leaving behind a little tunnel that served as pipe-tube. Each coolie in turn applied his lips to the earthy mouth of this tube, and inhaled the grateful fumes."

Among the Tekke Turkomans of Merv, Turkestan, a similar procedure is followed when they are on expeditions and deprived of their *kaliens* (water-pipes). According to G. Dobson,† the Tekkes under these circumstances construct what they call the *yer-chilin*, literally, "earth-pipe." "They scratch up a long ridge of earth or clay,

* "Where Three Empires Meet," 1893, p. 290.

† "Russia's Railway Advance into Central Asia," 1890, p. 308.

" make a groove along the top with their fingers, then lay a string or strap in the groove and fill it up with earth, pressed very hard. The cord or strap is then drawn out so as to leave a tube, and a funnel is moulded at one end to contain the tobacco from their pouches. The Tekke then drops on all fours, or lies down flat, and applying his lips to the orifice at the other end of this original smoking apparatus, he draws away until his eyes grow dim, and sometimes converts himself into a *kalian* by holding water in his mouth."

These Asiatic instances afford an exact parallel to the built-up earth-pipes of South Africa.

Excavated earth-pipes also occur frequently in the Central Asiatic region. In his account of the travelling-pipe of the Turkomans, at the south-east end of the Caspian Sea, Lieut. A. Conolly writes : * " They wet the ground to the consistency of clay, and cut a small trench, in which they lay a string : then, beating down earth upon this, they draw it gently out, and a channel is left, on one end of which they put a pinch of tobacco, and to the other their mouths, and inhale what my friends described as ' a draught cool as the breath of Paradise.' " At an earlier date S. G. Gmelin† figures and describes an underground pipe extemporised by the Turkomans of the Island of Cheleken, eastern Caspian Sea. His illustration is here reproduced in Fig. 10. According to him, a clean, sandy but moist ground is chosen. In this they scoop out with their hands a long groove, in which they lay a piece of rag twisted up to the thickness of a quill. The groove is then filled in and the earth pressed down. Next, the rag is drawn out, leaving a subterranean channel opening on the surface at both ends. One opening is enlarged to form a round " bowl " for the tobacco, on which live embers are placed. The smoker lies down and sucks the smoke through the smaller orifice.

In Sir W. Martin Conway's book, " Climbing in the Karakoram Himalayas," p. 87, an illustration (copied in Fig. 8) of a coolie smoking from an excavated pipe suggests a very simple (and shorter) Himalayan form of the Turkoman pipe described by Conolly and Gmelin.

A slight modification of this type is described by O. Olufsen‡ as used in Bokhara by both men and women as a substitute for the regular water-pipe. He says : " Poor people often smoke dried apricot leaves, and if they have not got any pipe, they dig a hole in the earth for the leaves, and, after sticking a straw slantingly into the hole, they lie down flat on the ground sucking at the straw."

The resemblance of these Asiatic excavated pipes to those of South Africa is noteworthy, especially when correlated with the similarity existing between the built-up earth-pipes in the two regions.

A parallel to the South African *portable* derivative from the earth-pipe (Fig. 3) is furnished by a smoking method practised by Sikh soldiers when campaigning. In a French illustrated paper of several years ago (I have not the exact reference) the following passage occurs : " Ces hommes se refusent à toucher aux cigares et aux cigarettes qui se distribuent dans les tranchées, car elles ont, au point de vue religieux, cette tare d'avoir été confectionnées par les mains de chrétiens. Mais ils n'en satisfont pas moins leur besoin de fumer. Dans une petite masse argileuse pétrie entre ses doigts, le Sikh se modèle un fourneau de pipe qui n'a, comme élégance de forme, qu'un lointain rapport avec ceux qu'on tourne chez nous en pleine pâte crémeuse de l'écume de mer. Puis, dans le fourneau durci au feu, il introduit une paille qui servira de tuyau. Encore n'est-ce pas directement par ce tuyau qu'il doit aspirer la fumée, mais bien par l'orifice laissé libre

* " Journey to the North of India," 1834, I., p. 74.

† " Reise durch Russland," 1784, Pt. IV., p. 66, and Plate VIII.

‡ " The Emir of Bokhara and his Country," 1911, p. 465.

"entre les deux pouces, lorsqu'il encercle entre ses mains fermées l'extrémité du conduit de paille. Dans cette pipe d'argile, les Sikhs fument, à défaut de 'hookah,' du tahac, et, à défaut de tahac, n'importe quelle herbe sèche." Fig. 11 is copied from the illustration by R. Caton Woodville which accompanies the description. This improvised pipe appears to be a portable derivative from the built-up earth-pipe, and, except for the addition of a straw "stem," is almost identical with the South African pottery pipe shown in Fig. 3.

The parallelism between these various smoking methods in South Africa and Central Asia may be carried still further if we compare in the two regions a very simple type of clay or mud pipe which has also, probably, an origin traceable to the built-up earth-pipes. Fig. 5 represents a very rudimentary pipe such as is made by Kaffir convicts in Natal for illicit smoking. It is merely a tapering tube of baked clay, about 4 inches long, open at both ends. The wider end serves as "bowl," the narrower as mouthpiece. There is no demarkation between "bowl" and mouthpiece, the bore tapering gradually from one end to the other. This pipe was obtained by Dr. H. D. Kingston. Fig. 6 shows an almost identical form of pipe obtained by Mr. W. Crooke at Nasirabad in Rajputana; made of sun-dried mud (or, possibly, camel dung) very full of grass fragments. Its form differs from that of the Kaffir example only in size and in the "bowl" being demarkated from the stem by a sudden narrowing of the bore about half way down the pipe.

These hurried notes do not pretend to exhaust the subject, but aim merely at emphasising how very closely the varieties of earth-pipes and their derivatives correspond in the two regions dealt with. The resemblances are sufficiently striking and numerous to suggest that they must be explained by the assumption of a culture-link between the two widely-separated areas.

The actual specimens figured (Figs. 1 to 6) are now all in the Pitt Rivers Museum at Oxford, and are reproduced on the scale of one half linear measurement.

HENRY BALFOUR.

Physical Anthropology.

Fleming.

Sex and Growth Features in Racial Analysis: an abstract of a communication read before the Royal Anthropological Institute on February 28th, 1922. By Miss R. M. Fleming.

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A few years ago, as a student in the department of geography and anthropology at Aberystwyth University, I began a study of women and children which I hoped would be a supplement to Professor Fleure's survey of the adult male Welsh population, and would show how far sex and growth, as well as race type, influence physical characters. A good foundation of data to work upon is now available, as I have measured some thousands of women and children and, in order to gain a practical experimental understanding of sex differences, some hundreds of men. The difficult and necessarily slow process of analysis of these data is by no means complete and it must, of course, be some years before sufficient remeasurements of the same children at different periods of their growth can be taken to ensure definite certainty of results. A few salient points have, however, emerged.

I. AS REGARDS CHILDREN.

First measurements have been taken on two to three thousand children, but up to the present remeasurements have only been analysed in 419 cases, 187 ♂ and 232 ♀ remeasured at intervals of from one to two years. The work is still going on, and I hope in time to secure much more complete series. Schools were visited in Cardigan, Merioneth, South Wales, Crewe, Malvern and Liverpool, and a side result of the observations has been to throw much light on movements of the population. The most important fact that emerges is the difference in rate of

development between boys and girls. I put this point first because it should prove of great service to education and physical training if careful studies of growth could be made use of in the grouping and grading of boys and girls for educational purposes. A similar conclusion, arrived at by Dr. Morgan Roteh, Professor of Pediatrics at Harvard University, may be quoted here: "Somewhat different rules should be adopted for the grading of girls than for that of boys. In fact, there is such a manifest difference in chronologic, physiologic and anatomic ages of young human beings in the formative stages of life according to sex that we should endeavour to make practical use of this knowledge in our efforts to safeguard their lives."

A second important result of remeasurement is that it brings out a tendency to a greater increase in head breadth than in head length, i.e., to an increase of cephalic index with growth. This applies to the majority of cases measured, though not to all. In early stages of growth this tendency is much more marked in girls than in boys. As this aspect of the work is only in its initial stages, the figures and percentages which follow must not be taken as altogether decisive, though interesting confirmation of some apparent results as to differences due to age and sex has appeared in recent anatomical studies of other aspects of growth and in educational reports on results of intelligence tests.

Of the 419 children remeasured after one year it was found that 75 per cent. had increased C.I.; 5 per cent. had same C.I.; 20 per cent. had decreased C.I.:

Changes of Cephalic Index on measurement after one year:—

Decrease.					Increase.					
—	3-4.	2-3.	1-2.	Less than 1.	Less than 1.	1-2.	2-3.	3-4.	4-5.	More than 5.
Girls	1	—	9	37	90	60	18	4	—	1 over 7.
Boys	—	1	10	24	90	44	6	2	1	

Increase varied 1-14 mm. in L. and B. Usual increase, L. 3-4, B 4-6. Greatest changes in C.I. 71.4 to 81.3 in 1½ years (male); 72.7-83.3 in 1½ years (female).

The above figures are reckoned on a one year interval and show that of the 419 children, 316 or just over 75 per cent. had increased in cephalic index, 21 (10 ♂ and 11 ♀) had remained the same, and 82 had decreased (i.e., had increased more in H.L. than in H.B.). It is noticeable (a) that all the really marked changes were in the direction of increased cephalic index; (b) that, of the children showing an increase of one unit or more, 83 were girls as against 54 boys.

Actual increase in millimetres in head length and head breadth varies from 1 to 14, the most general increase being 3 to 4 mm. in H.L., as against 4 to 6 mm. in H.B. After the age of 7 in girls and 10 in boys there is a marked rise in actual number of millimetres increased. This age difference corresponds with Dr. Pryor's observations on the development of the bones of the hand by means of X-rays. These show that a girl of 8½ has reached the same stage of ossification as a boy of 10 or more. He says: "The bones of the female ossify in advance of the male. This is measured at first by days, then months, then years. . . . This may be illustrated with the hands of twins of the same sex, in which there is a development of the same degree, while in twins of different sex the hand of the female is much in advance of that of the male." Other observations of Dr. Pryor as

to the union of the epiphysis of the lower extremity of the ulna with the shaft in girls at 16 or 17 and in boys at 17 to 20 parallel my observations on changes in colour, shape and head form, which are very slight or altogether absent after the age of 16 in girls, but continue markedly in boys.

Other points noted are that up to the age of eight years the girls showed rapid increase in cephalic index and marked changes in colour, while from 9 years onwards the changes were much slower and less marked. The boys up to the age of 10 showed only slight alterations in colour or in increase of cephalic index, but from 10 years onwards changes were rapid and marked.

Totals of all children measured show that cases of extreme dolichocephaly occur among boys only; no girls that I have measured had an index of less than 71 at any age, whereas an index of 66 is recorded among the boys.

The observations on colour show the same developmental sex differences. In making notes on eye-colour it has proved helpful to record the appearance in a gray or blue eye of a ring of brown round the pupil, flecks of brown rays out from the ring, and a general net of brown rings and rays over the gray. By this means it has been possible to record gradual darkening of the eye. The general tendency is, of course, for eye and hair to darken, but in girls the darkening is rapid until the age of 10, whereas in boys it is only slightly marked until that age. After that age the darkening continues slowly in both cases. In many cases the eye is dark from the first, and it is only the hair which darkens, the combination of dark eyes and light hair being as common up to the age of 10 as it is rare in adult life. In a few cases of both boys and girls the change in colour took the form of the appearance of a red tint. In a few others the intense pigmentation of very dark children seemed to modify slightly. In some very fair children the process of alteration of eye-colour went on, but the colouring that appeared was whitish yellow, so that the eye was still light, though there had been a change in it.

Another aspect of development which is being traced is the change in the shape of the forehead. Boys and girls seem more widely different in this than in any other feature discussed. The continuous frontal boss of infancy seems to disappear in girls a year or two earlier than in boys. In the latter it seems to resolve itself often into two bosses, which mark the nuclei of growth in the frontal bone and which interrupt the general tendency of the forehead to recede.

Interesting confirmation of a psychologic difference accompanying these physical differences in development comes from various education experts to whom the graphs of results have been shown.

II. AS REGARDS THE WOMEN.

Measurements of 927 cases of women compared with 1,852 cases of men reported on by Dr. Fleure bear out Prof. Parson's and his conclusion that there is in the samples of population we have studied a greater tendency in women to pigmentation and to brachycephaly. A large proportion of women fall in the class—eye dark, hair dark; though, when it is a question of great intensity of pigmentation, i.e., black hair and very dark brown eye, the men's percentage is higher than that of the women.

At every stage of cephalic index up to 79 the men are in the majority, but at 80 and every stage above it the women are in the majority.

Contrasts between Men and Women in Cephalic Index.

	Index -	75	76	77	78	79	80	81
Men	per cent.	11.17	12.31	13.23	12.69	13.18	—	—
Women	„	—	—	11.32	10.79	11.76	12.51	10.47

At no other Cephalic Index does the percentage rise above 10 per cent. of sample.

That is, the majority of men fall into a group having cephalic index 75-79 inclusive and the majority of women into a group having cephalic index 77-81 inclusive. Of extreme cases 7.33 per cent. ♀ have C.I. 84 or over, as against 1.94 per cent. ♂, and 13.28 per cent. ♂ have C.I. less than 75, as against 7.66. ♀ There seems every reason to suppose that a tendency to roundness of head in women and to a more oval shape in men is a sex character. The difference cannot be altogether accounted for by the extra strength of glabella and browridges in many men, for this is counteracted by the fact that many women have a greater projection of occiput. Again, measurements of very young children show that, before bony development of the forehead has set in, girls are rounder-headed than boys.

This conclusion seems to hold good for other groups than our own. E. Pittard in his "Cranio Helvetica" gives the tables of measurements of series of homogeneous skulls from the Valais. These belong to a much broader-headed type than our own, for 56.9 per cent. of the female Valais skulls have indices ranging from 82 to 86 inclusive, while 57.8 per cent. of ours have indices ranging from 77 to 81 inclusive and only 18 per cent. of ours have indices 82-86. By comparing a series of 386 ♂ and 288 ♀ the following results were obtained from Pittard's measurements:—

- (a) No women were 76 or less in C.I., as against 7 men.
- (b) Only .3 per cent. of the women were 77 or less, as against 2.8 per cent. men.
- (c) The greatest number of both men and women have an index of 85. But in men that number represents only 11.1 per cent. of the whole, whereas in women it represents 14.2 per cent.
- (d) The most brachycephalic skull is that of a woman C.I. 97, and the most dolichocephalic skulls are those of men ranging from C.I. 71-76 inclusive.

Pittard's tables also confirm our conclusions that women are slightly more prognathous than men, that the occipital prominence in women is lower and more projecting than in men, and that the *relative* size of the female frontal bone is greater.

Dr. Frets, in "Heredity of Head-Form in Man," states that women are more brachycephalic than men; and Fürst and Hansen, in a study of "Cranio Groenlandica," give 70.67 C.I. as average for men of that region, against 72 for women.

It is, therefore, clear that different limiting values must be used in deciding on race-type in men and in women. Some standard female types seem already to be indicated from the data in hand, though there is need for a great deal more work before they can be fully formulated.

The following is a preliminary study:—

Group A.—A type having most of the following characters:—C.I., 77-81; H.L., 181-193; H.B., 143-154; Ht., 5 feet 3 inches-5 feet 4 inches. Eye dark. Hair dark. Slight prognathism. Smooth or full forehead. Rather flat calvarium. Auricular height not great. Bizygomatic, 125-135.

[For purposes of comparison note that the group of dark men C.I. 75-79 have H.L. 194-204, H.B. 148-158, Bizygomatic 132-143. Less than 50 per cent. were prognathous. Forehead often receding. Height some inches greater than in women. This is from Dr. Fleuro's measurements.]

Of 600 cases of dark-eyed, dark-haired women, 57.8 per cent. fell into this group.

Actual figures :—

Number of Women.

Cephalio Index.

72

77

56

78

70

79

79

80

70

81

Of these 347 women, 219 were of Welsh extraction on both sides for many generations, in 35 cases the Welsh element in the ancestry predominated, though there were other factors. The remainder were women from various parts of the British Isles. In only three cases did the H.L. rise to 200 mm. or more, 74 per cent. of the group had H.L. varying from 181 to 193 inclusive, 12 cases were 175 or less and one fell below 170. The maximum H.B. recorded was 161 mm., but no other case reached 160 and 80 per cent. of the group varied from 143 to 154 mm. inclusive. The minimum breadth recorded was 135 mm. Only six of the 347 were exceptions as to calvarium—these had the boat-shaped vault, with auricular height nearly equal to head breadth, reminiscent of certain rather primitive skulls. Seventy per cent. had forehead full or smooth; 61.3 per cent were slightly prognathous. The main variation in height was 5 feet—5 feet 5 inches, though the majority were 5 feet 3 inches—5 feet 4 inches. No case was more than 5 feet 9 inches, about 9 per cent. were slightly more than 5 feet 5 inches and about 9 per cent. were less than 5 feet.

The group was not so homogeneous as the fair-haired, light-eyed group of C.I. 77–81. It fell into two rather distinct groups as regards general build. One had a decidedly square build, the hands and ankles broad, fingers not tapering, often stubby, often the lunulæ were absent from the nails. In this variant of the type the zygomatic width was great, the complexion fresh or florid, the forehead low, the temporal ridges marked, the hair often growing low on forehead and temples in a V-shape. The other variant has the build slight, the zygomas small, no marked temporal ridging, the fingers tapering, with long nails and well-marked lunulæ and the ankles slender. The skin is often pale olive in tint, with no touch of colour in the cheeks.

Group B.—A type having most of the following characters:—C.I., 76 or less; H.L., 187–199; H.B., 137–148; height, much more varied than in A.; eye, dark; hair, dark; prognathism marked in degree; forehead often receding; calvarium rather high; bony development more marked than in A.

The type, though very distinct, never includes any very large percentage of any sample taken. The ancestry is mainly upland Welsh, but a few cases came from the North Yorks moorland, the rural parts of the Hereford and Malvern district, the County of Aberdeen and the West of Ireland. 88–8 per cent. had H.L. 182–199 as against 74 per cent. of type A., with H.L. 181–193. The maximum H.L. was 208 mm. and the minimum 175. 79.7 per cent. have H.B. 137 to 148 as against 70 per cent. of A. with H.B. 143 to 150. The maximum H.B. was 155 and the minimum 133. In this group the H.L. is a much more variable quantity than the H.B. Both eye and hair are much darker than in A., the percentage figures being: hair very dark, 72.7 in B, and 63.6 in A.; eye very dark, 63.6 in B. and 53.6 in A.; 73.8 per cent. were prognathous as against 61.3 per cent. of A. The forehead is less uniformly smooth or rounded, 40 per cent. having receding foreheads against 20 per cent. in A. An interesting point is that most cards in this group bear a record of some curious and often primitive characteristic, such as edge-to-edge hite, horseshoe-shaped palate, broad flattened nostril, deep set eyes, temporal hollows

steep rise of vault to bregma. In some cases the hair grew very low on the temples and in one case the whole body skin was covered with really long, soft, fine hair, lighter in colour and softer and finer in texture than head or axillary hair. A few very dark women said that they were even darker in childhood and this possibility has been borne out by my observations on change of colour in little girls of this curiously interesting type.

Group C.—A type having most of the following characters:—C.I., 77-81; H.L., 180-192; H.B., 145-153; ht., 5 feet 4 inches to 5 feet 8 inches; cyc, light; hair, dark flaxen to light brown; prognathism not so common as in A. or B., but the upper teeth often project outwards in a slanting direction. The forehead usually receding; calvarium, finely arched in profile; skin, fair; bizygomatic width, 120-125. The face is usually long, the lower jaw obtuse and the chin long and prominent. The build and general physical characters are more homogeneous in this group than in A. or B. The height is greater, two-thirds of the group being 5 feet 5 inches or over. The bones are strong, joints and ridges well marked. The hands and fingers are long, and the ankles slender. The actual measurements are larger than in other groups and there is much less variation. The skin is fair and fresh-coloured, though seldom florid as in the dark type. There is often a fine soft short down on the skin, the pores are not so large, and the texture of the skin is fine. It is often noticeably harsh and dry to the touch, especially in contrast to the soft freshness of some of the dark types. The ancestry is markedly different, only 31.4 per cent. being of Welsh extraction.

In almost every group measured there has been noted a type which seems of pathological, rather than racial, significance. The measurements are all very much below normal, the eye and hair are very pale and colourless, the build slight, the head narrow, often only 132-137 mm. in breadth, and the general appearance listless. It is hoped that studies of the geographical occurrence of this type may help in discovering the causation of the condition.

Two other well-marked groups are being studied, the broad-headed dark and the broad-headed fair types. They are only a small percentage of the samples of population measured so far and further data are being collected before their general physical characters are discussed.

Three classes of women have been entirely omitted from the above groups:—

(1) Women having very light hair and dark eyes. This seems to be a condition of undeveloped pigmentation and therefore has little general racial significance.

(2) Those having a dark grey eye, but no brown pigment in it and very dark hair. It seems that these might justifiably be classed with the dark groups.

(3) Women with red hair. My cards are filed according to cephalic index for convenience and in every file there is a small group of red-haired women. Their general characters are, however, so heterogeneous that it seems difficult to classify them. Some have blue eyes and fair skin, some very dark brown eyes and fair skin, some are tall, some short and in every other way they differ so curiously that no distinctive group has yet emerged.

In collecting the above data, enquiries have been made as to occupations and preferences and these have been recorded on the cards and checked by other methods. The results seem to show some amount of correlation of psychical characters with physical make up. It is hoped that later these data may help by making it possible to suggest to boys and girls who are undecided about their future careers lines of thought which will prevent wasting of many years by trial of the wrong scheme of life.

In conclusion, my grateful thanks are due to Professor Fleure for much help in initiating and carrying out the survey and for giving me the free use of all his own measurements of men and women.

R. M. FLEMING.

Europe: Archæology.

Brooks and Marr.

The Ice-Age and Man: A Note on Man, 1922, 5. By C. E. P. Brooks, 47
with a Note by Prof. J. E. Marr, F.R.S.

I have studied Mr. Peake's classification of the Quaternary deposits with great interest, though I am unable to agree with him in all respects. There are two critical questions which must be solved before details can be worked out—the age of the Chalky Boulder Clay, and the position of the Chellean Industry.

Mr. Peake places the Chalky Boulder Clay in the Würmian and later than the Acheulian of Hoxne. The British Association Report on this subject is, however, quite definite*. The Acheulian gravels lie *above* the Chalky Boulder Clay and separated from them by lignite and clay with temperate plants. The Chalky Boulder Clay must also be older than the 100-foot terrace of the Thames Valley. But the fauna of the latter, especially *Corbicula fluminalis* and *Paludina diluviana*, is characteristic of the first (Mindel-Riss) interglacial of the whole of northern Europe. We therefore have Chalky Boulder Clay-Mindelian. Similar conclusions were reached by F. Leverett† from a study of the weathering and erosion of the European deposits.

I am not an archæologist, but Penck's argument with regard to the position of the Chellean seems to me very clear, that as at Tauhach and in the Grimaldi Grotto the Mousterian industry is contemporaneous with a temperate fauna, it must be in part interglacial. That being so, the Acheulean must correspond to the Rissian glaciation, and the Chellean must be Mindel-Riss. This statement is not inconsistent with the Mousterian occupying the whole of the Würm proper also. The close association of Chellean man with *Elephas antiquus* and the only really warm fauna of the Glacial Period is also in favour of its earlier position, for in the Riss-Würm interglacial Northern Europe does not appear to have reached its present temperature.

The great majority of British geologists fail to find any evidence of more than an oscillation of the ice-edge between the period of the Cromer Drifts and the Chalky Boulder Clay. A recession of the Scandinavian ice was followed after a pause by an advance of the British ice, but both are considered to belong to one period of glaciation.

I am glad to see that Mr. Peake throws doubt on the validity of the Gunz-Mindel interglacial. I should like to go further and divide the whole Ice Age into two glaciations only, the Gunz-Mindel and the Riss-Würm, both composed of several oscillations and re-advances. Recent work by Scandinavian geologists‡ suggests that over the greater part of Norway and Sweden the ice only completely melted away once during the whole glacial period, but then for a very long interval. After the Rissian readvance there is no return of a really temperate fauna until the close of the Ice Age. Examine, for instance, the fauna of the "interglacial" mammal beds of Rixdorf, near Berlin. In spite of the large number of bones examined, the warm element is represented solely by one tooth of *Elephas antiquus* and one tooth of *Rhinoceros Merckii*, both possibly derived.

* B.A. Report, 1896, pp. 400-415, or W. B. Wright, "The Quaternary Ice Age." London (Macmillan), 1914, p. 273.

† Leverett, F., "Comparison of North American and European Glacial Deposits," *Zs. Gletscherk*, Berlin, 4, 1910.

‡ Ahlmann, H. W.: Son, "Geomorphological Studies in Norway." Stockholm, *Geogr. Ann.*, 1, 1919, pp. 1-187, 193-262.

An analysis of the probable meteorological conditions associated with the development of an ice-sheet over Scandinavia gives the following stages:—

1. Ice-sheet forming first over Norway. Northerly winds over Central Europe causing the first glaciation of the Alps (Gunz).

2. Centre of Scandinavian ice-sheet spreads to northern Baltic. Winds over Central Europe become more easterly—drier and somewhat warmer. Recession of Alpine glaciers (Gunz-Mindel).

3. Ice occupies Baltic and spreads out over North Sea, impinging on British coast. Centre of glacial anticyclone again moves westward, causing return of very cold northerly winds over Central Europe. Beginning of Mindelian glaciation of Alps.

4. The cooling brought about by the ice on the North Sea plain causes increased snowfall in British Isles. Hence the British glaciers develop at the expense of the Scandinavian and push the latter away from the coast (Chalky Boulder Clay). This process is probably helped by subsidence in Scandinavia under the weight of the ice-sheet.

5. Final recession of the first ice-sheet.

During the second glacial period the sequence of events was roughly similar, but the Scandinavian ice never actually reached England, while the British glaciers were smaller, and their disappearance was followed by a long series of oscillations in North-West Europe and the Alps. After the disappearance of the British ice there was one comparatively long and mild interval, which we know as the Mindel-Riss interglacial, during which cold-temperate steppe conditions prevailed over Central Europe, but the ice-sheet maintained its existence in Scandinavia, and the commonest animals were the horse, the bison and various species of deer.

I have not been able to see a copy of Macalister's book referred to, so I have not been able to discuss his arguments.

C. E. P. BROOKS.

The views as to the relationship of the different stages of palæolithic times are so varied and conflicting that nothing short of a full discussion of the problem is of much use. Even at present, some hold that palæolithic man dwelt in this country in pre-glacial times, others that he is entirely post-glacial, others, again, that some of the palæolithic stages belong to an inter-glacial period. There is a tendency for the upholders of the different views to pay scant attention to the arguments of their opponents. The ideas of those who adopt the third position above mentioned seem to be gaining ground, but the writer feels that much more information must be obtained before the question can be considered as being finally settled.

The Hoxne evidence is most important, but the assumption that the boulder clay below the beds containing Acheulean implements is chalky boulder clay (using the term in a stratigraphical sense) is unproved. It has been suggested that it represents an earlier glaciation during which the Cromer glacial accumulations were formed, and that the Hoxne beds containing a cold flora indicate the oncoming of a second cold period of post-Acheulean date, during which the true chalky boulder clay was formed.

J. E. MARR.

America, North: Art.

Ritchie.

Note on Carving on a North-West American Birch Bark Canoe Model. By John Ritchie.

48

In the literature regarding the artistic element among the peoples of the Far West of Canada I have, so far, been unable to discover any reference to a habit of telling their stories by means of cutting pictures on tree barks, such as that revealed by a specimen in the Perth (Scotland) Museum collection. This specimen, a model

birch bark canoe (Fig. 1), came into the collection in 1833, when it was presented by a Captain Duncan. With the canoe were two model paddles, a bow,

and a fishing apparatus similar to that used by the natives of the Fraser River district. A carving which has been discovered on the canoe indicates that it was the practice of the Indians to cut pictures on the bark of trees.

The subject of the carving (Fig. 2) is an Indian (?) sitting

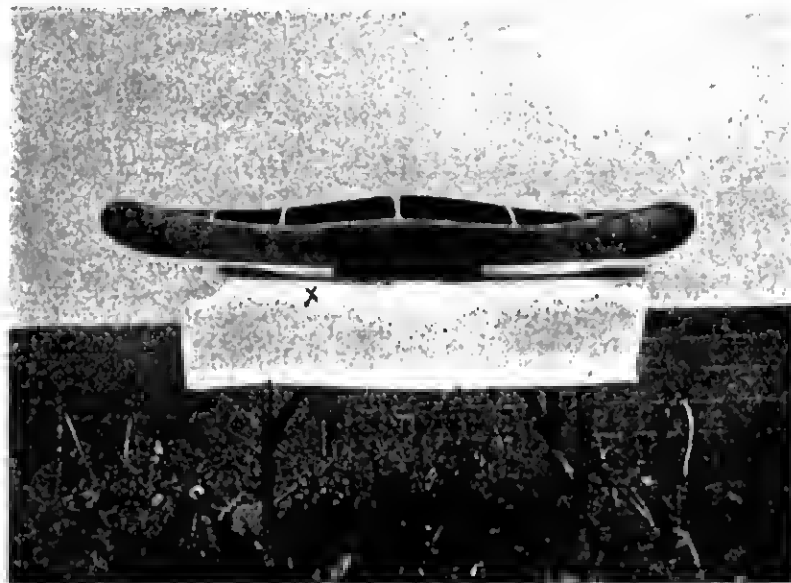


FIG. 1.

at the foot of a tree on which an owl (*Bubo virginianus*!) is perched, while across the long grass a buffalo is seen. Unfortunately the splice caused by the cut

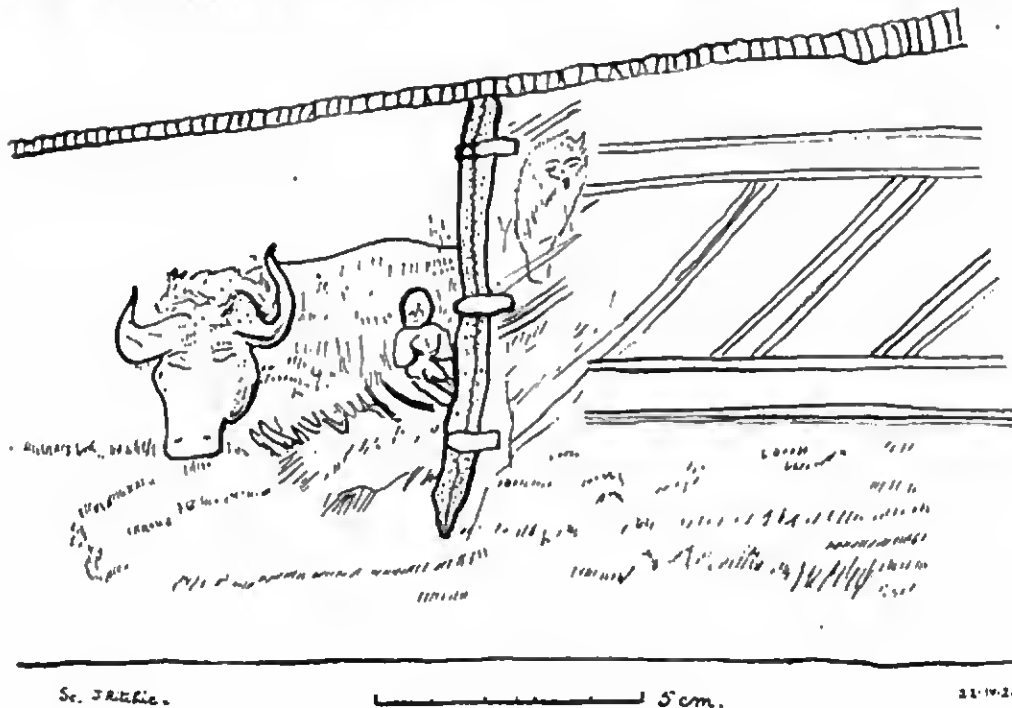


FIG. 2.

to shape the line of the boat divides the picture. As the carving shows a cicatrised margin with granular healing such as could only have taken place when the birch tree was alive, it gives evidence that the bark had not been stripped off until a considerable time had elapsed between the carving and the barking of the tree for economic purposes.

In the accompanying drawing (Fig. 2) the bark markings of the tree have been omitted to render the picture clearer.

JOHN RITCHIE.

Solomon Islands: Fishing.

Woodford.

A Singular Method of Catching Prawns. By C. M. Woodford.

49

I may mention a curious method of taking fresh-water prawns, which I have seen used in the Solomons. The mid-rib is stripped from one of the leaflets of the frond of a coconut palm. This results in a thin pliable switch about 18 inches in length and tapering to a mere filament. The thin end is knotted into a running noose. The fisherman lies on his stomach on the bank of the stream and watches the prawns crawling along the bottom. He then carefully lowers the switch and passes the noose over the long stalk of the eye of the prawn, and with a jerk draws it tight and lifts the prawn on to the bank.

CHARLES M. WOODFORD.

REVIEWS.

Africa, West: Sociology.

Van Wing.

Études Bakongo: Histoire et Sociologie. Par R. P. Van Wing, S.J.
Bruxelles: Goemaere. Pp. 319 and XIII.

50

Father Van Wing has produced in this book the most masterly account of the sociology of an African people that I have ever had the good fortune to read. A stay of many years among the people he describes, a deep erudition, the access to many ancient documents, an indefatigable zeal and a sympathetic nature have enabled him to produce a monograph which will undoubtedly become a classic. Among the other advantages I must mention that Father Van Wing had the help of a trained botanist (probably that master of Congolese flora, Friar Gillet), so that in all the cases where plants are mentioned in his book he gives the correct name, which is more than most field-workers can do. He had not the same good fortune when he dealt with the animal kingdom; it is difficult to identify the animals he mentions in connection with taboos; thus the great crested touraco (*corythæola crestata*) is simply described as a "big blue bird with a crest and a long tail" and the francoline is wrongly called a partridge. The shells *zimbu* or *nzimbu* are not cowries, but *olivella nana*.

However, these are details of little importance compared to the general excellence of the work. The Bakongo, like many other tribes of West and Central Africa, have suffered from disruptive forces for centuries and form to-day no political or social unit. It seems that the ostensible division into clans took place when the Bakongo left their ancestral home round San Salvador, and spread over the country they inhabit at present, each clan following the lead of its head. At the time of the emigration the Bakongo differed considerably from the people of to-day; manioc was not yet introduced, and millet and plantains were their staple food. Their arms were the spear, the big knife, and bows and arrows. It is still possible, though rare, to see a Bakongo bow as a treasured insignia of

chieftainship. The Bakongo were clad in cloth woven of rapbia and they had no carved fetishes. Traditions aver that each clan practised a special craft; thus there were clans of weavers, potters, basketmakers, smiths, etc. This division of labour may have originated by inheritance of trade, or hereditary admission to a guild, running parallel with clan relationship. It is not unique in Africa; among the Bushongo certain crafts are practised by certain tribes only. All clans of the Bakongo, however, practise agriculture, hunting and fishing. The identity of clan membership with guild membership raises complex questions, which I leave to wiser heads to discuss. Another interesting tradition relates that the right bank of the Inkisi was at the time of the emigration a wilderness of grass land, afforested later by the Bakongo, and was inhabited by Pygmies called Banbaka, Babekelo and Bansunsa, who have disappeared centuries ago.

F. Van Wing promises that he will publish shortly the traditions and names of the various Bakonge clans, collected during the war by Father Struyf. But he gives us in this volume a great number of *Ndumbululu zi makanda*, the national songs of the clans. They are very old, their language is archaic and they contain in perfect rhythms the abridged history and the name of the root-ancestor of the clan, its wars, important heads, its migrations and offshoots. These *ndumbululu* are the most precious part of the book. They must not be confused with ordinary oral traditions, *bidimbu bi kanda*, which have none of their quasi-sacred character.

Similar clan-songs, which also act as war-cries and as a sign of recognition among the members of the same clan, exist in other parts of the Congo, though, as far as I know, their real nature has not been recognised previous to Father Van Wing. I met one as far east as among the Batetela (it is to be published), though I failed to recognise its importance. Now that Father Van Wing has made this clear it is to be hoped that others will try to collect these valuable documents of Africa's past.

The Bakongo, once united under a single crowned chief, form now a number of independent tribes, the chiefs of these being the former heads of the clans. The tribe is identified with the clan, and membership is determined according to the female ancestry, quite independent of the place of birth. The chiefs have lost much of their power, and most of them have preserved their judicial functions only, to which they are entitled by their direct descent from the founder and common ancestor of the clan; they are simply the heads of the oldest branch of the family. Whatever alterations the advent of Europeans may have made, there can be no doubt that the chief has still the land vested in him, and we have documentary evidence that this was so centuries ago. Father Franco wrote in the early 17th century that a present of land which his mission had received from Pedro II., King of Kongo, had to be confirmed by each of his successors, as "according to the laws" of this people all rights of possession in land ended with the death of the king "who had given it." Father Van Wing adds that to this day it is a fundamental law of the Bakongo that land is inalienable, though the usufruct can be prolonged for the duration of his reign by the existing head of the clan.

The clan is the organisation on which, to this very day, the relation of the various natives among themselves is founded. All members descend in the female line from the same common ancestor, whose name the clan generally bears; they are exogamous and have a common taboo. There are certainly traces of totemism (the leopard might be a clan totem), but it must be left to the readers of the book to draw their own conclusions on that subject. The clan relationship, as distinct from the family relationship, is called *kingudi* or *kimpangi*, while the latter is known as *kitata*. The former is matriarchal, the latter patriarchal. Another recognised relationship is that of marriage connections; in the descendent line it

is called *kinzadis*; in the ascendant, *kizila*. These are of less importance, though they, too, count in the matter of marriage prohibitions. It results from the various importance attached to the different relationships that a marriage with the father's brother's daughter is admitted, while it is prohibited with the father's sister's daughter.

Above the political chief every clan possesses a spiritual head, the "crowned chief," *mfumu-mputu*. His crown consists of a raphia cap, and he must never show himself without it. Other insignia of his office are a spear and an iron bracelet. He is selected by his predecessor, after consultation with the elders, when he feels his end is coming. The principal duty of the crowned chief is the cult of the ancestors. This office is apparently dying out under the influence of foreign rule; the author says that there are few left, and mentions two whom he has met. I have met one in the land of the Bayaka, though I was far from knowing his real functions, and described Noana N'Gombe as a fetishman of great importance. It is highly probable that there are others existing who keep out of the sight of the white intruder.

The book is full of information, and it is impossible to give an adequate account of its contents in a review. Nor ought this to be necessary, as anyone interested in African sociology will have to acquire this valuable work.

E. TORDAY.

Anthropology: Sources.

Kroeber: Waterman.

Source Book in Anthropology. By A. L. Kroeber and T. T. Waterman.
University of California Press: Berkeley, 1920.

51

This is a very attractive little volume, especially for those whose tastes are compendious. A review, in the ordinary sense, would be out of place, but attention may be drawn to the nature of the contents. Beginning with Herodotus and Lucretius, and their explanations of, and speculations on, geography, anthropology, and the origin of man and civilisation, we jump to Sir Ray Lankester and Dr. F. A. Lucas for a little modern geology and palæontology. Darwin and Huxley take up the tale of natural selection and man's relations, with Dr. Hrdlička to wind up the discussion. Tylor and Avebury treat of prehistoric time, and a little Mendelism is intercalated between this and Galton's *Hereditary Genius*. Professor Karl Pearson discusses mental and moral inheritance, whilst Retzius and Deniker are called upon for physical anthropology. Racial questions are treated by several authors (von Luschan, Boas, and others), and then we pass to material culture, almost entirely that of American Indian tribes; the same is largely the case with regard to primitive sociology, though Tylor supplies an introduction, and Spencer and Gillen an account of Australian marriage classes and totems. Potlatch, shell-money, Ifngao law, warfare, decorative art, Egyptian hieroglyphic writing, are discussed by various authorities, and the religions of ancient Mexico, of the Navaho, the Melanesians, the Eskimo of Greenland, the Amazulu, precede accounts of the Creation according to the Maori, the Maidu Indians, the Tlingit Indians, and the ancient Hebrews.

Most of those who read the book—or refer to it—will have their own views as to the editors' sins of omission and commission, and if the collection of articles and extracts had been made in this country it would, no doubt, have been very different. This is no reproach, however, since American anthropologists, like the older authors drawn upon for this book, are justified by their works, and merit honour in their own country as well as in others.

H. S. H.





FIG. 2.



FIG. 3.



FIG. 1.



FIG. 4.

IBERIAN POTTERY AND DAGGER.

ORIGINAL ARTICLES.

With Plate F.

Spain: Archæology.

Hildburgh.

Notes on some Pottery Objects and on an Iberian Dagger with Engraved Handle. By W. L. Hildburgh.

52

The pottery objects figured on Plate F, and forming part of a group of pottery purchased at Burgos in 1921, were there said to have been obtained from a person living in or near the village of Palenzuela, in Palencia province. I think we may reasonably assume that they were found (not necessarily all on the same site) somewhere in the vicinity of that village, although I know of no definite site (or sites) to which to attribute them.* Included in the group were a number of vessels—jars, howls, etc.—made of a red material, of fairly good quality, which in some cases had been painted with simple designs of purely geometrical nature and formed of black lines; these vessels are similar in form, material, and decoration to other objects found in the Peninsula.†

Of the pieces here illustrated, the three-legged pot (Fig. 1), a little less than 4½ inches high, and made of a coarse greyish material (black, presumably due to the effect of smoke, before cleaning), appears to be individually the most important.‡ Its surface is ornamented with a series of small bosses and, just below the neck, with an incised herring-bone pattern, and it has a noticeably small handle. As tripod vessels of pottery are rare in Europe, excepting in Greece of an early period, where they were extremely common,§ we are naturally led to suspect some connection between the present pot and the early Aegean civilisation of which so many other traces exist in the Peninsula. Such a suspicion is strengthened by our learning that on the site of Troy there were found tripod-pots with flattish legs and with little handles similar to the handle here||; such little handles occur on many pieces from that site. We may see a still further parallel between the present pot and Aegean pottery in the use of little ornamental bosses; Evans found at Knossos large pottery jars, of the second part of the Middle Minoan period, decorated with numerous small bosses and having many small handles shaped like the present one,¶ and various other vessels of a somewhat later date (M.M.III) decorated with bosses,** Schliemann, too, found some pottery decorated with bosses.†† Again, we may observe that the present handle has a rope-like decoration, and that it thus becomes comparable with the rope-moulding of one of the bossed *pitthoi* found at Knossos‡‡, and that the herring-bone decoration of the present example is to be seen in almost the same position as here (as well as on other parts) of another large

* For brief notes on sites and pottery of the provinces of Palencia and Burgos, see P. Bosch Gimpera, *El problema de la cerámica ibérica*, Madrid, 1915, pp. 33, 36 *seqq.*

† For some examples of various periods, cf. Bosch Gimpera, *op. cit.*; H. and L. Siret, *Les premiers âges du métal . . . de l'Espagne*, Antwerp, 1887; P. Paris, *Essai sur l'art et l'industrie de l'Espagne primitive*, Paris, 1904, section on "La céramique"; Paris and Engel, "Fouilles et recherches à Almedinilla," in *Rev. archéol.*, Vol. VIII. (1900); Marques de Cerralbo, "Nécropoles ibériques," in *Comptes rendus Cong. Internat. d'Anthrop. et d'Archéol. Préhist.*, Genova, 1912; L. Siret, *Questions de chronologie . . . ibériques*, Vol. I., Paris, 1913; and the *Memorias* of the Junta Superior de Excavaciones y Antigüedades, Madrid (1918 to present date).

‡ We may note, in passing, that a leg of a tripod-pot of local make, of a form similar to forms found at Ilios, was excavated in Minorca; cf. A. Vives, "El arte egeo en España," in *Revista de Archivos*, Vol. XXII, (1910), p. 398.

§ Cf. Schliemann, *Ilios*, Lond., 1880, pp. 354 *seqq.*

|| Cf. *ibid.*, p. 227, Fig. 59, and p. 544, Fig. 1130, for examples; compare, also, p. 531, Fig. 1032.

¶ Evans, *The Palace of Minos*, Figs. 174, 175.

** *Ibid.*, p. 567 and Fig. 412.

†† Cf. H. Schmidt, *H. Schliemann's Sammlung trojanischer Altertümer*, Berlin, 1902, p. 183, No. 3711, for an example.

‡‡ Evans, *op. cit.*, p. 232.

vessel found at Knossos with bossed *pithoi*.* This series of resemblances is so extraordinary that we can hardly doubt that, if the present pot be a genuine antiquity—and I have as yet seen no reason to doubt its authenticity†—it must have been in some way closely associated with Aegean influences. If it had been found in a place on or near the sea-coast there would be no difficulty in accounting for it, because numerous evidences in the Peninsula show that early Aegean influences reached it by sea. Palenzuela is, however, far from the sea, and consequently this object of fragile material and of a specially fragile type seems much more likely to have been made in or near the district where it was found than to have been carried a long distance overland, even if the land journey were not preceded by a sea-voyage. Some light on its present association with pottery of a period later than the one to which we might well attribute it seems to be given by a series of vessels, found in the excavations at Numantia, roughly made of a black or ash-coloured ware, in which three-legged shallow cups, which must have been in fairly common use, are prominent.‡ This series appears obviously to be related to a kind of pottery, of which a considerable amount was found at Numantia, ash-coloured or black, roughish in quality, and ornamented with small concentric circles, which has been inferred to be connected with the Celts.§ As painted geometric ornamentation resembling that found on early wares of Aegean manufacture is to be seen on pottery made in the Peninsula apparently in Roman times, and seemingly as a survival from a much earlier period,|| I think we need not hesitate to assign the present object to a period considerably later than we should give for it had it been found on an Aegean site. We may observe, before leaving it, that there seems a possibility that the likenesses between it and Aegean types might have been caused through the copying of an early metal pot of an Aegean form, which penetrated inland through trade or otherwise, and being of a long-serviceable material, was used as a model at a period much later than its own.¶

The four small shallow vessels, ranging in length from 3·4 in. to 4 in., three of which have long slits through their bottoms, shown in Fig. 2, are also of a greyish, blackened, material, red on the surface. A number of pieces like these, and also discovered in Spain, are in the Archaeological Museum at Madrid, in the room assigned mainly to "Roman Pottery." As I do not know for what use these vessels were intended, I suggest, tentatively, that possibly they, or at least some of them, may have been employed for extracting the silver from silver-lead derived from galena, because we may believe that vessels intended for that purpose would have had to be refractory and of a form such as to expose a comparatively large surface to the oxidising air. If such were indeed the case, perhaps the slits served to hold masses of bone-ash for taking up the lead-oxide not removed by skimming or volatilization; bone-ash, if loose, would have floated on the surface of the liquid lead in such vessels, and have tended to impede oxidation and skimming. That bone-ash was used by both Greeks and Romans for the extraction of silver, in at least cupellation

* *Ibid.*, Fig. 175.

† There are, however, a good many imitations of early pottery which have been made in Spain in recent times; cf. Paris, *Essai*, Vol. II., pp. 142 *seq.*

‡ Cf. R. Mélida, *Excavaciones de Numancia*, Madrid, 1912, p. 26 and Pl. XX.

§ Cf. *ibid.*, loc. cit. and Pls. XXI., XXII., XXIII.

|| On the cause of the likenesses between the ornamentation of Iberian pottery and that from Aegean sites, cf. Décholette, *Manuel*, Vol. II., 3, pp. 1499 *seqq.* Cf., also, J. Pijoan, "Iberian Sculpture," in *Burlington Mag.*, Vol. XXII. (1912), pp. 66 *seqq.*

¶ Evans points out (*op. cit.*, p. 567) that the knobs of the M.M.III vessels shown in Fig. 412 are "evidently a decorative imitation of rivet heads"; he says (*loc. cit.*, footnote), further, that "There seems to be here no direct relationship to the 'knobbed' decoration of the M.M.I-II 'pithoi', though knobs in a modified shape appear on some smaller vessels of the early part of the Middle Minoan Age."

bearths, is known.* It would help us to decide, were we to know precisely where and in what circumstances vessels of the kind have been found in Spain. Furthermore, chemical analysis of a piece of one, before it had been cleaned, might, if found, settle the question of their purpose.

The idea that vessels like these might have been intended for metallurgical use occurred to me when I first examined them. Later investigations seem to confirm my idea, for I found that a number of clay vessels, of about the same size and of similar shapes (excepting that the slits in the bottoms—possibly a refinement due to the discovery at a later time of the properties of bone ash—are lacking) to the present ones were discovered among the ruins of the Second (the Burnt) and Third Cities on the site of Troy,† and that these were thought by those who examined them to have been crucibles for metallurgical work, one example, indeed, showing traces of precious metal on its inner surface.‡

The small balls (ranging in size from about $1\frac{1}{2}$ inches downward), shown in Fig. 3, are made of red material, such as was used for a number of vessels forming part of the group (cf. *supra*, p. 81) but not illustrated here; it should be observed that the two objects at the left end of the lower line are beads—one cylindrical, the other spheroidal—of the same material as, and found with, the balls. Most of them are ornamented with incised lines, or with lines of dots which in some examples divide the surface into eight equal parts, and thus resemble a great many similar balls which have been found in Spain. The white material seen in the photograph, in the markings, appears to be merely the calcareous deposit found on the other pottery objects obtained with the balls; I do not think it is colouring added originally to make the markings distinct. Some markings look as if these pottery balls represented, or had been derived from, soft balls for playing some ball-game, made (as the ancients were accustomed to make soft balls) of several pieces of leather sewn into a cover about stuffing.§ The linear markings might well represent the joins between the pieces of leather, the lines of dots, lines of stitching. Greek vases sometimes bear painted representations of balls whose covers are divided into eight sections by geometrical designs hiding the stitching.|| Concerning the Spanish pottery balls, Mérida has said¶: "Very often, and very abundantly, there are found among the ashes of the Iberian city [of Numantia] and among the ruins of the Roman city, denoting an indigenous custom not lost through the [Roman] conquest, earthenware balls, a few smooth, [**] but mostly

* Cf. W. Gowland, "Silver in Roman and Earlier Times," in *Archæologia*, Vol. LXIX., p. 151.

† Cf. Schliemann, *Ilios*, pp. 408 seq., 558. In *Ilios*, respectively called the "Third" and the "Fourth"; in *Troja*, London, 1884, the "Burnt City" is recognised as the Second.

‡ Cf. *ibid.*, p. 409. Of the one here specially mentioned, and found in the Burnt City, Professor Roberts said, "It is possible that this saucerlike vessel may have been filled with bone-ash, and used as a 'test' for cupelling gold or silver; but I have not yet detected the presence of any lead compound which would have made this view almost a certainty."

§ Cf. Derenberg et Saglio, *Dict. Ant.*, s.v. "Pile," p. 476.

|| Cf. *ibid.*, loc. cit. In this connection it is worth recalling that the Ancient Egyptians appear to have had small balls covered "with slips of leather of a rhomboidal shape . . . meeting at a common point at both ends, each alternate strip being of a different colour; but as these have only been met with in pottery it is uncertain whether they were really imitations of leather balls, or solely made of those materials, and used for some other purpose connected with the toys of children." (Cf. G. Wilkinson, *Manners and Customs of the Ancient Egyptians*, Lond., 1847, Chap. VII.) [Leather balls of the kind have, I believe, since been found. W. L. H.]

¶ *Excavaciones de Numancia*, 1912, p. 38. Cf., also, *Mem. of the Junta Sup. Excav. y Antig.*, No. 5 of 1917, Pl. XIII. and p. 17, and No. 1 of 1920 (Gen. No. 36), p. 7.

** Two smooth ones, made of a light porous earthenware, are figured by the Sirets as found at El Arger; cf. *op. cit.*, Pl. XXIV., No. 77, 78. Balls of the kind do not seem to have occurred very commonly in their excavations in South-eastern Spain.

"ornamented with lines graven or made up of dots, disposed in the form of zones and meridians, which divide the surface of the sphere into four or eight sections (see Pl. LIX.). Balls of this kind, of red or white clay, and some two or three centimetres in diameter, are found not only in Numantia, but in all Iberian soil. Up to the present, however, no satisfactory hypothesis as to their use has been formulated.*] We have suspected, from the beginning, that they might have served for some game of chance or for throwing lots in connection with the consultation of an oracle. But in 1910 we had to relate these balls to a kind of gaming-board [tablero], of stone, and having in one of its faces, a series of semi-circular hollows purposely made, which could well have served to receive the said balls skilfully propelled. Two large paving-stones [cantos de aceras] from Numantine streets also have similar hollows, and possibly served the same purpose as the afore-mentioned stone. Certain of the Numantine pottery balls are very curious: some are ornamented with the impressed concentric circles found on the black ware to which reference has been made above [p. 82, *supra*], and others are inlaid with some little circles of copper; of these two varieties we know of no examples found outside of Numantia. The large balls are hollow; two or three of them, doubtless, because a bit of clay is loose inside, rattle when shaken."

I have quoted at some length Mélida's remarks on balls of this kind, because Schliemann found at Hissarlik, among the ruins of the Second (the Burnt) City and of the Third† a considerable number of pottery balls, of about the same sizes as those found in the Peninsula, and in some instances having ornamentation of the same kind.‡ In *Ilios*, Schliemann has figured some of these. In his No. 1,999§ we see one whose surface is divided, precisely as are divided the surfaces of so many Iberian examples, into eight sections; in these sections are designs formed of dots, and a swastika|| and a (†) tree. No. 245¶ shows another, the surface here being divided into horizontal zones, the equatorial one of which is ornamented with swastikas and a sign said to resemble a Cypriote character. No. 1,986** has a circle at either end and an equatorial zone, but resembles many of the Iberian balls †† in the ornamentation of its surface with a large number of dots irregularly disposed; it is, therefore, interesting to learn that "Similar balls, but without the grooves and the curved line, are very frequent" amongst the Trojan balls.‡‡ All the balls thus far cited were found in the Burnt City. No. 1,993 represents a ball, found in Schliemann's next stratum, whose surface is divided into eight equal parts which contain incised designs.§§ This ball, and another (No. 1,991|||) from the same stratum,

* Cf. *ibid.*, in *Rev. de Archéologie*, Vol. XVIII. (1908), p. 461. A. Schulten in "Ausgrabungen in Numantia," in *Archäologischer Anzeiger*, 1905, p. 165, has expressed the opinion that they were slingstones.

† Cf. footnote †, p. 83, *supra*.

‡ Cf. Schmidt, *op. cit.*, Nos. 8,870-8,908 inc. (there were, in addition, fifty-two duplicates left undescribed); and Schliemann, *Ilios*, *passim*, and *Troja*, pp. 127 *seqq.*

§ *Op. cit.*, p. 421 and last Pl.

|| The swastika occurs on much Numantine pottery; for examples, cf. Mélida, *Excav. Num.*, 1912, Pls. XXXIV.-XXXVI., XXXVIII., XL., XLIX.

¶ *Ilios*, p. 349.

** Cf. *ibid.*, p. 420 and Pl. at end. It is worth recalling, in this connection, that during the British Museum's excavations at Enkomi, in 1896, "Not in a tomb, but in the soil close by, there were found several small terracotta balls, on which a series of Cypriote letters had been incised previously to the firing"; cf. *Excavations in Cyprus*, Brit. Mus., 1900, p. 27. These Cypriote balls are of reddish pottery, somewhat irregular in shape, and, excepting for the Cypriote characters, without ornamentation.

†† Cf. Mélida, *op. cit.*, Pl. LIX. ‡‡ *Ilios*, p. 420. §§ *Ibid.*, p. 572 and Pl. at end.

||| *Ibid.*, *loc. cit.* The little circles with rays, which, on Nos. 1,991 and 1,993, occur associated with swastikas, are very like figures we find associated with swastikas on some Iberian pottery, e.g., a fragment from Amarejo, figured by Paris (cf. *Essai*, Vol. II., pp. 54 *seqq.*).

are in part ornamented with largish depressions, in this being similar to some Iberian balls having such depressions distributed widely over their surfaces. Related to these balls is another (No. 1,225) from the same stratum, having one hemisphere adorned with square depressions, and the other with incised signs of some kind.

Enough has now been said to indicate the strong probability of some kind of cultural relationship between the pottery balls found in Spain and those of a far earlier period found at Hissarlik. Now, we may observe that the Trojan balls seem to be related in some way to the spindle-whorl-shaped objects found in very large numbers in the Burnt and subsequent Cities,* which were believed by Schliemann to have had in many cases a ritual significance. Schliemann suggested, too, that the ornamented "whorls" might have been prepared for use as votive offerings to the tutelary deity of the city†—a suggestion which later he found supported by the discovery of a representation of one of the terracotta "whorls" as a symbol among the Babylonian symbols surrounding a certain sculptured representation of the Babylonian Bel standing by a figure like one found in the ruins of the Burnt City and believed to represent the tutelary goddess of that city.‡ It is therefore worth mentioning that at the Iberian necropolis of Aguilar de Anguita, attributed to the late fifth and early fourth centuries B.C., most of the urns contained, besides the ashes,—whether of men or of women—nothing more than one or two whorl-shaped objects, or else one such and a small pottery ball,§ the weapons, ornaments, etc., being deposited outside the urn.|| At this necropolis, when two pottery "whorls" were present, often one was conical and the other oval. At the necropolis of Luzaga, a few miles from Aguilar de Anguita, where the interments were similar to those at the latter, similar whorl-shaped objects of pottery, highly ornamented (in strong contrast with the urns, which were plain¶), were found; the Marquis de Cerralbo formed a series of these, conical ones showing ornamentation, varying from a swastika to a group of simple radial lines, which he considered had clearly a solar significance.** He suggested, further, that one of each pair of "whorls" might have to do with a sun-cult, and the other with the ideas of a future life.†† The finding of clay balls in graves of the Peninsula is perhaps in some way paralleled by the finding of some perforated balls of serpentine (rather larger, seemingly, than the pottery balls) in the tumulus traditionally attributed to Protesilaus,‡‡ where pottery like that of the earliest cities of Hissarlik was found.§§

The occurrence in pairs of the pottery objects in the Iberian urns makes of some interest an occurrence, to which L. Siret has called attention,||| of spheroid bodies in certain cases. In these the bodies are joined together in a single piece, sometimes made of pottery,¶¶ sometimes a natural calcareous concretion found in

* Cf. *Ilios*, *passim*, especially p. 422; and *Troja*, p. 39.

† Cf. *Ilios*, pp. 419 *seq.*, 422, 229. For a comparison of the designs on the Hissarlik objects with those on similarly-shaped objects found elsewhere, cf. *ibid.*, p. 229. On the "whorls" found in the later excavations, cf. *Troja*, pp. 39 *seq.*, 120 *seq.*

‡ Cf. A. H. Sayce's "Preface" to *Troja*, p. xviii. On spindle-whorls as offerings to Pallas, cf. *Troja*, pp. 229 *seq.*

§ Cf. Marquis de Cerralbo, *C. R. Acad. Inscriptions*, Paris, 1912, p. 527. In "Nécropoles bériques" he shows (p. 624, Fig. 24) the contents of a warrior's grave, in which appear one "whorl" and one ball.

|| Women's bronze personal ornaments were, however, sometimes placed in the urn; cf. "Nécropoles ibériques," p. 614.

¶ Cf. *C. R. Acad. Inscriptions*, 1912, p. 529.

** Cf. "Nécropoles ibériques," pp. 618 *seq.*

†† Cf. *ibid.*, p. 614.

‡‡ Cf. *Troja*, p. 259.

§§ Such pottery had not been found in the Troad except at Hissarlik. Cf. *ibid.*, p. 261.

||| In *Questions . . . ibériques*.

¶¶ Cf. *ibid.*, p. 249, Fig. 343.

circumstances indicating the probability that it served in some rite.* He associated these with certain sculptured representations of a pair of halls (or hemispheres), and took them to be symbols of the "Sky-Father" or fecundating god.†

It seems, from the above considerations, not improbable that—whatever may have been the purposes of the pottery balls and "whorls" of the Peninsula and of the earlier cities at Hissarlik—in the whorl-shaped objects found in certain Peninsular graves we have further valid evidence connected with the particular cultural relationship seemingly exemplified by the resemblances between the Trojan pottery halls and those of Spain.

The dagger, whose upper part is shown in Fig. 4, was bought at Granada in 1919, accompanied by the statement that it had been found at or near Medina Elvira‡ a few months previously. Unfortunately, information of this kind is in Spain not greatly to be relied upon, especially when the name of a well-known site is given, unless obtained at first hand—not the case here. I think, however, that in the present instance we are fairly safe in assuming that the dagger was found at least somewhere near Granada, especially as other daggers having a hilt with antennæ have been found in the district about Granada§; indeed, a dagger of the same form was found by the Marques de Cerralbo at Illera, not far from the site of Medina Elvira.¶ Sandars, who has discussed¶ weapons of the antennæ type, has figured (*op. cit.*, p. 266, Fig. 9) in outline a dagger very similar in shape to the one here. The type corresponds to the later Hallstatt period, and in Spain occurs from about the fifth to the second century B.C.** The present example, whose blade differs from the blade of the dagger figured by Sandars in little excepting the filling of its inner triangle with narrow grooves, and whose grip has a similar form, would hardly merit special notice but for the engraving with which it has been enriched.

The grip, which seems to have been made of the same material as the blade, was until quite recently almost completely covered with iron-rust. The construction of the grip is indicated by a distinct juncture-line running down the middle, on the face opposite to the one here shown, of the portion carrying the principal part of the ornamentation; the upper and lower limits of this portion are shown by juncture-lines at the cross-pieces respectively bearing the antennæ and holding the blade.†† The ornamentation, consisting mainly of spirals and wavy lines, cut firmly in the metal, may possibly formerly have been filled with some composition; I have not been able to detect in the lines any traces of metallic inlays.‡‡ The Marques de Cerralbo has exhibited a number of weapons of the antennæ-type ornamented with incrustations of silver and copper,§§ as well as other weapons (of the type having scabbards ending in a spreading four-disked piece, and ascribed to the period of Hallstadt II.) ornamented with incrustated silver and (or) copper or with engraved designs without inlay.¶¶ A lance-head, in the Salazar collection, found at Almedinilla

* Cf. *ibid.*, pp. 457 seq.

† Cf. *ibid.*, pp. 249 (Fig. 84a), 261 seq.

‡ The site of a Roman town; cf. *Antiquaries Jour.*, Vol. I., pp. 330 seq.

§ Cf. map showing distribution of Iron Age swords and daggers in Spain, attached to R. del Arco's "Una sepultura de guerrero ibérico de Miraveche (Burgos)," in *Arte Español*, Vol. III. (1916).

¶ Cf. M. de Antañano y Galdácano, *Cat. Exposicion Hierros Antiguos Españoles*, Madrid, 1919, p. 21 (No. 98).

¶ Cf. "Weapons of the Iberians," in *Archæologia*, Vol. LXIV., pp. 219 seqq., 265 seq.

** Cf. Déchelette, *op. cit.*, Vol. II., 2, p. 687.

†† On two other methods of forming the grips of antennæ-type weapons, see "Weapons of the Iberians," pp. 220, 222.

‡‡ For a list of Iberian inlaid objects of about the same period, see del Arco, *op. cit.*, pp. 11 seqq.

§§ Cf. Antañano, *op. cit.*, pp. 8 seq. (Nos. 17-20 inc.).

¶¶ *Ibid.*, pp. 30 seqq. (Nos. 153-159 inc.). Cf. also del Arco, *op. cit.*, *passim*, and Pl. I. and Figs. 1, 2.

and figured by Paris and Engel,* is incrustated with silver in designs very similar to those of the present handle; another, in the Serrano collection at Alicante, bears, inlaid with silver, designs of the same kind.† The metal of the handle (like that of the parts of the blade not covered with rust) has a greyish-black colour with a non-metallic lustre, and the engraved lines contain, excepting where they have been cleaned out, iron rust. Before photographing, therefore, white powder was rubbed into the lines to make them appear more clearly. The reverse of the grip has been so badly injured by rust that there is some difficulty in deciding whether certain lines appearing there have been engraved or are merely fortuitous injuries to the metal; in either case, the side here shown seems, because of the juncture-line above-mentioned, to have been the principal side. The engraved ornamentation is, in its wavy lines, and its combinations of spirals, very like that found on some Iberian pottery.‡ Bronze ornaments formed of spirals are characteristic of the women's graves at Aguilar de Anguita,§ where many antennæ-swords have been found; they have also come from graves of about the same period elsewhere in Spain.||

W. L. HILDBURGH.

Great Britain: Archæology.

Warren.

The Red Crag Flints of Foxhall. By S. Hazzledine Warren, F.G.S.

53

Several of my friends have been urging me for some time past to hasten a public expression of my views on the Foxhall flints. Certain considerations, on the other hand, urged me to take adequate time for the re-consideration of the whole subject from every point of view.

Firstly, the change of opinion of so many of the highest authorities has been a severe shock, which gave one pause to think twice.

Secondly, the past history of the original objections to the Palæoliths, and their final triumph, is apparently repeating itself in the present case.

Thirdly, I would point out to my opponents that I realise very clearly the obvious proposition that, if I am mistaken and remain in the wrong, it is my loss and their gain.

I had the opportunity of visiting Ipswich during the past autumn, and would like to express my great appreciation of the freedom, courtesy, and good feeling with which Mr. Reid Moir placed all his evidences before me. He was also good enough to give me a series of the Foxhall flints, so that I have them constantly before me for reference.

In the study of mechanical action (mainly in the form of movement under pressure, as being the most important from the flint-flaking point of view) one is guided partly by the results of experiments,¶ and partly by the direct observation of sub-soil evidences in such situations as the sub-Tertiary Bullhead bed at Grays.**

One cannot enter into details on the present occasion, but in general terms one may observe:—

1. *The Primary Flakes.*—Mechanical action gives hulks which are, on the average, less conical, less sharply defined, and generally flatter, than those produced by human blows. There is a certain percentage of exceptions on both sides, but the presence or absence of the quality of human muscle makes a dominant difference which is of the greatest possible importance.

* "Fouilles et recherches à Almedinilla," p. 89, Fig. 22.

† Cf. "Weapons of the Iberians," pp. 243 seq., Fig. 22.

‡ Cf. Paris, *Essai*, Vol. II., "La Céramique" *passim*; on spirals particularly, pp. 120 seq.

§ Cf. "Weapons of the Iberians," p. 223.

|| Cf. *Boletín Sociedad Española de Excursiones*, Vol. XXIII. (1915), pl. facing p. 227.

¶ *Journ. R. Anthropol. Inst.*, Vol. XLIV., 1914, p. 412.

** *Quart. Journ. Geol. Soc.*, Vol. LXXVI., 1920, p. 238.

2. *The Chipped Edges*.—Mechanical action tends to give high angles of flaking; that is to say, it tends ultimately to a blunting and not to a sharpening of the edge. Other things being equal, the greater the force the lower the angle; but the lower angles are temporary, and, as the process continues, the dominant tendency towards high angles becomes apparent. The forms produced by mechanical edge-chipping constitute an exceedingly complicated, but well-defined group. They may be considered to centre round the simple notch. In the one direction the forms pass from shallower notches, through straight edges, to outward curves like normal prehistoric scrapers. In the other direction the more complicated forms pass through double-notches, or "cupid's bow" scrapers, by insensible gradations to points, and the smaller "beak-shaped" tools or the larger rostro-carinates. Where the notches are reversed from either side we have the pseudo-drill. Normal scraper edges sometimes sweep round into hollows with a very graceful curve.

3. *Mechanical Edge Chipping is normally from one side at a time*.—There is sometimes chipping of a crude character on both faces,* but it seldom attains to a satisfactory sharpening of the edge by the intersection of oblique flakes, taken first from one side, and then from the other. The "one way at a time" flaking, on the other hand, is extraordinarily good and systematic, and simulates intelligent design to a very notable degree.

As the writer first pointed out some 20 years ago, there is an important (though not invariable) correlation between the striation of surfaces, the process of mechanical action, and the effects of mechanical chipping. Considerable weight has been given to the alleged absence of striations upon the Foxhall flints as evidence of the absence of mechanical action upon them. This is a grave error of observation. Striations are abundant upon the Foxhall flints, far more so than on the Bullhead flints of Grays, where striations are remarkably scarce.

With reference to the relative date of the striations and the flakings, raised by Mr. Reid Moir in the April number of MAN, I would point out that a scratch is of necessity subsequent to the fracture of the surface on which it is imprinted. Where it is possible to correlate an individual scratch with a particular flake, this scratch is neither on the face of the flake nor on the corresponding facet, but on a previously existing surface of the flint from which the flake was removed. Further soil movements may subsequently scratch the face of the flake and produce later working of the edges. In one or two of the specimens from Foxhall, given to me by Mr. Reid Moir, it is possible to identify a particular scratch with a part of the working of the edge; both being the correlated effects of the same movement.

When at Ipswich my attention was particularly directed to one Foxhall specimen (J. Reid Moir, *Proc. Preh. Soc., E. Ang.*, Vol. III., 1921, p. 391, Fig. 1). One may note the flatness and poor development of the cone of percussion, and the pressure hollows on the edges—each important point distinctive of mechanical action. It may fit the hand, but is it not rather the hand which is so admirably adapted to grasp a great variety of shapes? Criticism of each specimen singly would result in the repetition of the applicable portion of our general propositions, namely, the flatness of the bulb, the poor development of the cone, the dominance of the high-angle edge-chipping "one way at a time," frequently running into hollow curves and producing points, and so forth; all precisely in accordance with the complicated but systematic results of mechanical pressure.

It is farthest from my intention to suggest any dogmatism of what may or may not be actually true, but if I may express freely and clearly what seems true

* Certain specimens illustrated by Mr. Reid Moir as human implements could be taken as typical of this class, namely, *Proc. Preh. Soc., E. Anglia*, Vol. III., 1921, p. 406, Figs. 12 and 13; and also pp. 426-28, Figs. 42, 43, 44, 45.

to me I cannot say less than this: that the Foxhall flints give us another instance of the association of striated surfaces with exclusively mechanical characters in the flakes themselves and in their trimmed edges. And that this association, and limitation to the mechanical group of forms does not constitute an unsatisfactory, or doubtful, case of "not proven," but (from the point of view of a human industry) a definite, complete, and conclusive, case of "proven not."

As I indicated at the commencement, I felt profoundly affected by the change of opinion of some who hold our highest esteem in geological and prehistoric research, but the study of the Foxhall series and a wide re-consideration of the whole evidences, has left me more firmly assured than ever of the soundness of the contrary view.

I would particularly emphasize the close parallelism of the sub-Tertiary flint flakings from Grays. As a result of tedious and careful digging with small hand tools I have seen the rostro-carinates, the Foxhall type of flakes with edge trimming, pseudo-borers, pseudo-scrapers, spur implements, single notches, double notches, and many more, all in the actual process of manufacture by the movement-under-pressure of one stone against another.

There have been difficulties and delays in the working of the Grays site, but I still hope to obtain a larger amount of material that will more adequately illustrate the whole series of pseudo-implements, their remarkable systematic grouping (so deceptively suggestive of human intelligence) and their range of variation. The series that I have already obtained is more than enough to be conclusive to myself; but then I have had the advantage (which is not shared by any one of my opponents) of the first-hand investigation of experimental movement-under-pressure, combined with first-hand digging in the best sub-soil flaking site that is yet known.

I do not expect the opinions of others to be influenced by my own, but I look to the enthusiasm and perseverance of my opponents to prove more and more specialised and advanced human industries in earlier and earlier geological formations, until the conclusion is forced upon them that there must be something wrong. I believe that in this way (and in this way only) they will come to realise for themselves that their standard of human workmanship is a false one, and will have to be revised, not only with respect to the eoliths, but also with respect to some supposed implements of the admitted human period.

S. HAZZLEDINE WARREN.

America, North: Games.

Parsons.

Hidden Ball on First Mesa, Arizona. By Dr. Elsie Clews Parsons.

Among the Tewa of First Mesa the game of *elu** gives its name to the 54 month of January, *elu poye* (moon), the season of its play. By men or by men against women the game is played in the kiva, by women it is sometimes played in the plaza. Sometimes kiva plays against kiva. There is no play of clan against clan. Anybody may propose the game. A set of game pieces is kept in each kiva, by the kiva chief. When women are to play they must ask the kiva chief for the pieces, but the men of the kiva may get the pieces out for themselves. However, the pieces must be carried in a so-called wedding blanket, i.e., the blanket always used in ceremonial.

These are four wooden pieces, made of cottonwood root, spherical, cup-like, that is, hollowed out at one end and closed and rounded at the other where a cotton string and eagle or turkey feather, a prayer-feather (*nakwakwosi*), is attached (see

* Hopi, *so-sibö*. My informant was a Tewa, married into a Hopi family; but, as far as I know, the game is played in the same way by both the Hopi and the Tewa of First Mesa. In Hopi, January is called *pañ müye*, play moon, hidden ball being the principal game, but other games also being connoted.

Fig. 1). At the winter solstice ceremony, the time when prayer-feathers are fastened to whatever is the subject of a wish, the kiva chief makes fresh prayer-feathers for his gaming set. Into the little hole at the closed end of the piece the



FIG. 1.

string is pushed with a little stick, which is then broken off to serve as a plug. The marks on the pieces are burned in with a hot iron. The names for the pieces are: "black waist," Tewa, *pinopeñi'*, Hopi, *sōnasakqōmbi*; "black neck," Tewa, *k'epēñi'*, Hopi, *o'bakakqōmbi*; Tewa, "two black," *wiepeñi'*, Hopi "two lines," *lōkwilaokwata*; Tewa, "three black," *poyepeñi'*, Hopi, "three lines," *paikwilao-kwata*. The ball (Tewa, *elupung*, Hopi, *sobilōlō*) which is hidden beneath these pieces is made of clay or of anything available. Nowadays even a store bought marble may be used, a curious adaptation of the implement of one game to another, and a characteristic expression of Pueblo Indian acculturation.

The four pieces may be set out in anyone of three positions:—

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A corn husk, painted black on one side, white on the other, is used for the toss, to determine which side gets the pieces.

The players, of whom there may be any number to a side, sit in two rows, facing one another. He who sets up the pieces is called the chief (*mongwi*), and sits in the middle of the line of players.* In front of them are the game pieces.

The tally (Tewa, *tekwanle*, Hopi, *tōwō 'pi*) (see Fig. 2) consists of a stick for each side, any kind of a stick, and twelve parallel lines marked on the ground with white clay† (*tōma*).‡ Between the two sets of six lines is a space called gap (Tewa, *kwawillige*, Hopi, *kwi'isala*) which is the place where the stakes are or were put—the game is no longer played for stakes. When men and women play together, in the "gap" are marked (presumably in white) four lines and three circles, the lines to represent the wood which the men, if losers, pay; the circles, the bowls or baskets of food the women pay up with§ (see Fig. 2). At each failure to guess where the ball is hidden,|| the tally stick is moved from line to line. Twelve failures constitute defeat.¶



FIG. 2.

* This is also the position of a dance chief or director.

† In a kiva game played in 1900 and described by Fewkes, the "tally board" was marked in sand brought by the chief of the Sand clan. (Culin, Stewart, "Games of the North American Indians," pp. 362-3, XXIV., *Ann. Rep. Bur. Amer. Ethnology*, 1907.)

‡ It is found at *tōmapele* (*pele*, wall), in a mesa to the south-east, and it is used ceremonially in many ways.

§ According to Fewkes, to start a game the women would go to the kiva hatch and call down to the men that they wanted firewood. "Come down and gamble for it," the men would reply. ("Games of the North American Indians," p. 362.)

|| It is stated by Stephen, and more accurately, I infer from Zuni parallel, that it is on the third guess that the ball should be uncovered. If the player uncovers the ball before or fails to find it at his third guess, the other side scores a count. ("Games of the North American Indians," pp. 363-4.)

¶ In a folk-tale in which a game between women and men is referred to, it is stated that as many sticks as there are men players are made and as the woman chief picks up these sticks she names each by the name of one of the men players, and a woman player takes the stick. . . . If the women are beaten, the following afternoon they take food to the kiva; if the men are beaten, each man takes wood to the woman who has his stick.

In moving the ball the left hand must be used. If the piece covering the ball is touched with the right hand, the fine is two lines. The pieces are set in position and the ball hidden under the cover of a blanket. His head still under the cover, the chief puffs smoke on the pieces four times, and prays to beat the other side. "May I hide it so they do not find it," he says, and he asks Spider Grandmother (*yowela saya*) to help hide it with her web. While the chief is thus engaged his side are singing to a drum, "to scare the other side." A player may also knock another's chest and say: "Your thought is gone away. You won't beat us."*

The war gods, it was positively declared, have no connection in theory or ritual with the game. This is a conspicuous distinction from the game as it is played at Zúñi.† In the Zúñi game (*iyankolowe*) the war gods are invited with prayer-stick to attend the play and help to victory. A priesthood is also called upon to perform victory-assuring rites, and certain ritual plants are buried in the sand under the spot where the ball rests. There are other differences in the technique of the game. At Zúñi the cups, in shape and colour, are different, a stone disc is used for the toss, and the score is kept by straws, one hundred and six straws, which must be won to score victory. The scorekeeper, the "rat," is an important figure. The game is not played by kiva. It is, however, in its ritual elaboration that the Zúñi game is distinctive. In it, as in other activities, the people of Zúñi in comparison with other Pueblo Indian peoples are distinguished for ceremonialism.

ELSIE CLEWS PARSONS.

Africa, Central; Religion.

Sanderson.

A Note on Ceremonial Purification among the WaYao, Nyasaland.

By Meredith Sanderson, M.R.C.S., F.R.G.S.

55

One of the effects of European influences in Africa is the breaking up of tribal organisation and discipline. The rights of the individual being no longer subordinated to the common good, customs formerly observed by the village community as a whole die out, while those affecting the individual are still practised.

This tendency is well seen in the ancient ceremonies of purification among the WaYao which are now rarely performed collectively, though the native, however highly "educated," still goes to the doctor to obtain the necessary medicines for removing, for instance, the contamination caused by contact with a corpse.

These collective ceremonies have already been described by various writers in respect of both Nyasaland and elsewhere,‡ but the Yao rites have not, I think, been given in detail, and the following notes may not, therefore, be altogether valueless.

The *Pyajila* ceremony (*kupyajila*, "to sweep") is common to most Bantu tribes. In its simplest form it used to be performed annually by the WaYao, at the beginning of the twelfth month, count of the months (lunar) being kept by means of a "calendar."§ The whole village is thoroughly "spring-cleaned," all rubbish

* At Sia, where the game is played on All Souls' night in the sacristy, Father Barnabas Myer tells me, the song in Spanish runs:—

Yano, yano, quando tu venga,

Yano, yano, hay mais.

Yano, yano when you come.

Yano, yano, I shall not be there any more.

Words imputed, presumably, to the hidden ball.

† See Stevenson, M. C., "The Zúñi Indians," pp. 333-341, XXIII. *Annual Report, Bureau American Ethnology*, 1904.

‡ Frazer, "Balder the Beautiful," II, 179, *egg*.

§ A "calendar" consists of a string tied to two pegs in the wall of the house, or between two poles, on which are threaded twelve pieces of reed, bamboo or cornstalk. One of these is moved to the other end of the string each time a new moon is seen.

is swept up, the ground round the houses is boed clean, and the interiors remudded. Ceremonial beer is brewed hy the bead-wife of the chief, and after this has been drunk the ashes of the fire used in the brewing are carefully collected and taken to a *malekano* ("cross-roads," or "diverging of paths") where they are deposited. The chief, as representative of his people, hatbes in special medicated water, a decoction made from the bark of *ng'wenya* and *mbawa*, and the root of *mpingo*. This completes the ordinary annual ceremony, at which new fire is not made.

On certain special occasions a moro elaborate ritual is carried out; such occasions are the death of a ohief, a threatened epidemie of infectious disease, a murder (especially by shooting) and the frequent occurrence of qnarrels in the village.

In such circumstances, in addition to the ordinary *pyajila* ceremony described above, the porridge sticks of the whole village are renewed and all fires extinguished. The discarded sticks and all ashes of the old fires are carried to the meeting of paths, where the former are stuck upright in the ground and the ashes piled together; this is done in procession, all the people taking part. On their return to the village new fire is made by friction by either the chief or his younger brother—usually the latter; fire procured in any other way would nullify the proceedings. Finally all the people bathe in the medicated water used only hy the chief at the ordinary ceremony.

In addition to this special form of the *pyajila* ceremony, another rite is sometimes performed after the occurrence of a murder or as prophylactic against the spread of epidemie disease. The doctor first makes a kind of trough (*lukungwa*) from the bark of *mtondowoko* or *mpapa*, and procures a *chichiliko* (or *chipengule*) basket—used as a strainer in salt-making. Having collected his medicines he proceeds to the hank of the stream near the usual bathing-place of the village and digs a shallow hole, in which he places the basket; in this he puts the leaves of a certain thorny shrub and covers the whole with the trough, which is hanked up with earth so as to be perfectly firm. He then puts his "medicines" into the trough; these are, first, the bead of an iron hammer and a piece of slag, both from a smelting furnace. On top of these he puts pieces of the root of a certain tree which has many and particularly sharp thorns, and bits of bark from two trees peculiar for having very atraight stems. Having distributed these evenly along the floor of the trough, he fills it with water and then proceeds to construct an arch over the end of the trough furthest from the stream. Two long poles, cut from a kind of tree particularly rich in sap, are planted in the ground, one at each side of the trough and close to it; these are bent over towards each other, and fastened together by means of a strip of their own bark. A bamboo is now planted alongside each, and similarly tied to its fellow. During all these preparations and throughout the ceremony it is essential that the doctor has no knots in any part of his clothing.

The preparations are now complete, and when all the fires in the village have been extinguished the people go in procession to the spot where the doctor awaits them. All must be poorly clad and must have no metal about them.

The chief opens the ceremony. He steps into the trough and taking some of the medicated water therefrom in his hands he rinses his mouth with it. He then offers a prayer to the spirits of his ancestors, first stating the emergency and detailing the measures which are to be taken to deal with it (new fires, sweeping, discard of porridge-sticks and shaving). The prayer over, he splashes the water in the trough over his body and passes through the arch, first throwing some gift (beads or, in more modern times, money) into the trough. These gifts, presumably intended as an offering to the spirits, are the perquisites of the doctor, and everybody is supposed to contribute in turn.

The man and boys now pass through the arch in order of seniority; each splashes himself with the water in the trough, but neither speaks nor rinses the mouth. The women come next, led by the head-wife of the chief; the latter rinses her mouth and, instructed by the doctor, repeats a prayer similar to that offered by her husband. The remainder of the women merely splash themselves, like the men, before passing through the arch. All then return to the village, where the *pyajila* is continued.

Finally the doctor takes the hammer-head from the trough and hands it to the chief, who refits the haft into it, and, a hoe having been placed on the ground, goes through the form of forging the latter by beating it with the hammer. He then scrapes the ground with the hoe as if clearing a place overgrown with grass; he does not dig with it as in hoeing up the ground for planting seed. After this rite the chief again bathes in medicated water similar to that in the trough, and the ceremony is complete.

Whereas the *pyajila* ceremony and its adjunct, the rite of the arch, are now but rarely performed, no Yao will omit the rite of purification after a death in his family. This ceremony consists of two essential parts, both protective against the *ndaka*, a disease characterised by dropsy and supposed to be contracted by contact with a corpse, or by association, especially by sharing a meal, with those who have been in such contact. The first of these parts is bathing in certain medicines, which protects the bather from *ndaka*, and the second consists of a sort of communion meal, shared by all friends and especially relatives with those who have been contaminated, and designed to protect those friends and relatives.

The decoction for bathing is made by soaking the roots of *lugwalambuti* and *lumlemela* in water, together with the bark of *mkomwa*, one piece each from the east and west aspects of the tree; the water assumes a reddish tint, and the whole body is bathed.

The communion meal consists of porridge made from any kind of flour or of rice, and some *ngunde* beans. In the latter some scorched and powdered root of *mtandanyelele* is mixed, with a little salt. All near relatives of the deceased must partake of this meal, as well as their wives and their near relatives; part is carefully put aside for the use of any relative unable to be present at the ceremony.

Latterly, since the spread of Islam among the WaYao, this rite has become confused with the distribution of food to the poor at the funeral of a Muslim, and the Arabic word *sadaqa* ("charity") is now generally used for it, to the exclusion of its wider, correct meaning.

It may be mentioned here that after the death of a child the father is denied access to his wife for a period of about three weeks, and the first act must be one of *coitus interruptus*.

MEREDITH SANDERSON.

REVIEWS.

Religion: Palæolithio.

Mainage.

Les Religions de la Préhistoire: l'Âge Paléolithique. Par Th. Mainage.

This volume, by the Professor of the History of Religions at the Catholic Institute of Paris, is notable for being issued with the imprimatur of the Catholic Church authorities there, so that it may be taken to represent official views about early man, or at least acquiescence in present theories.

The contents are mainly a good recapitulation of what is known of Palæolithio man, his development, works of art, weapons, etc., following M. Boule, the Abbé Breuil, Cartailhac and Déchelette, with 252 illustrations from *L'Anthropologie* and other sources. After three chapters of general information, the study of religion begins in the fourth with the burials. The author considers that burials with more or less care and ceremony imply a belief in a future existence. He does not find

evidence of a cult of ancestors, real or mythic, nor of "the ideas designated under "the name of totemism." The cult of animals, obvious in the paintings and sculptures, is, he thinks, due to the necessity, in a hunting community, of propitiating the creatures. But the painting or engraving of their figures in dark caverns does not necessarily mean that they were adored themselves.

The city-dwelling scientist who tries to project himself mentally into a world unlike the one he knows, has great difficulty in doing so. Study of Australian natives is the usual resource. Even Professor Mainage, "with an expectation of finding a purer monotheism among the prehistoric Primitives than in those of the "present day," does not formulate any definite theories, except that "the idea "of a supreme Deity nowhere gives the impression of a late invention. It is, on "the contrary, very ancient. . . . The Deity has become remote, neglected, "because, little by little, the world has receded from Him" (p. 369). In the following pages Father Schmidt and Andrew Lang are quoted.

A reason is suggested for the use in burials of red ochre; that it was to sustain the vital power of the defunct, red being the colour of blood.

The persistent belief in the power of red ochre is remarkable. In 1909, an old Blackfoot chief possessed some flint implements covered with red ochre, which he kept carefully wrapped, and brought out as a favour for a visitor to gaze at them. This would confer long life.

Writers on contracted burials seem to be unaware of the posture in which primitive races rest, and also the suppleness of their muscles. To sit (and sleep) with chin resting on knees has been the habit of Indians in South and Central America, and they must have often died, stiffened, and so been buried without disturbing the limbs.

Professor Mainage does not admit earlier signs of Art than the Aurignacian, although some observers have found what appear to be intentionally formed figures in the drift gravels. He is incredulous about eoliths in spite of the careful work done in recent years to establish their position. In MAN, 1905, Nos. 91 and 92, the Rev. H. Kendall and Mr. J. Russell Larkby gave cogent reasons for distinguishing the pseudo-eoliths produced by the mill at Mantes from those chipped intentionally and found in plateau gravels.*

The conclusion and summing-up (p. 418) are disappointing: "Palæolithic man was religious as have been men of every age. . . . He probably believed "in a Supreme Being. This belief degenerated, with the needs of a hunting life, "into magical practice. He believed in a future life, requiring food."

Paviland cave is not in the north of England (p. 154) but in South Wales.

A. C. B.

Evolution.

Conklin.

The Direction of Human Evolution. By Edward Grant Conklin. Humphrey Milford (Oxford University Press). London, 1921. 12s. 6d. net. **57**

In this interesting little volume the author depicts in outline the past, present, and future of man from various points of view, but always with a biological foreground.

The first section, on the "Paths and Possibilities of Human Evolution," is a condensed but lucid account of how we come to be what we are, and of the reasons for believing that the evolution of man, the individual, has run its course.

* Mr. Larkby wrote: "Eolithic forms were in nearly all cases exposed to blows delivered "from one direction only, and with a like intensity. Careful measurement of the angle of "chipping reveals a difference of vastly greater importance than mere form coincidence. In "true eoliths the angle of chipping rarely exceeds 72° or falls below 45°, and, as a rule, one "general angle of chipping is retained for each implement; but in the pseudo-eoliths the angle "of fracture on one flint often varies from 25° to 90°."

The second section discusses "Evolution and Democracy," and, as might be expected, the author has difficulties in getting his picture all in focus at the same time. This is no doubt partly due to the lack of definition characteristic of the democratic idea, when applied to the setting-up of governments, but one is disposed to doubt whether democracy can be fitted into any biological scheme of composition. It is, perhaps, a bigger thing than biology can embrace, and it is certain that, at the present time, its future calls for faith as well as works. This faith the author has, though he does not overlook the difficulties both of theory and of practice. Indeed, he quotes figures, obtained by tests applied during the war, which appear to demonstrate that nearly one half of the population of the United States are incapable of developing a mental capacity beyond that of a normal child of twelve years of age; and that only some 13 per cent. will ever show "superior intelligence." How then, with such a substratum, can the people govern themselves? In existing so-called democratic countries, formulæ have been found which enable a shrewd and more or less educated minority—together with various camp-followers, hereditary or other—to use the mass-reaction as a means of election to grace and office, and one wonders if the future has anything better in store than a rationalised version of the counting of heads at their hottest. But human thought is a disorderly affair, and salvation by formulæ is not confined to politicians.

The third section, on "Evolution and Religion," contains little that will be contested by biologists, and much that they will unreservedly approve. The *débris* of religious anthropomorphism is always with us, and, although much of the dust settles down after each sweeping, something is done towards clearing away the rubbish. One welcomes the author's observations on spiritualism, in view of recent unfortunate demonstrations that a keen brain may have a feather edge.

The book is based on lectures, and has the limitations imposed by this method of presentation, but as a clearly-reasoned digest of the author's views—representative as they are in character—on fundamental topics, it may be read with profit both by those to whom the facts and ideas are familiar, and by those whose interest in the biological outlook is greater than their knowledge.

H. S. H.

Africa, West: Linguistics.

Leith-Ross.

Fulani Grammar. By Sylvia Leith-Ross. Secretariat Stationery Store, Lagos, Nigeria. Pp. 210. 10s. 6d. net.

58

When a work is described by its writer as "both intricate and superficial" there is not much left for the critic to say. This work falls into three sections—grammar, seventy-two pages; texts (with interlinear translations), sixty-seven pages, and dictionary. Unhappily the system of transcription is inadequate, and the value of the texts is correspondingly diminished; to plead that an accurate rendering of all sounds would mean too great elaboration does not excuse a five-vowel scheme of transcription where "a" in father is rendered by the same sign as "u" in run.

In dealing with the noun the authoress speaks of the law of "permutation" (commonly known as polarity), but her account is so inadequate that we do not learn that nouns which make these polar changes fall into two main classes, one having a plosive in the singular, the other a fricative. Not only so, but in the lists of noun classes we find "no permutation" time after time, when reference to the examples shows that polar changes do take place; thus, in the *ndu* class, four out of six words given make the change from fricative to plosive. To add to the confusion, the dropping of an initial nasal is regarded as a form of permutation. What is meant by the statement that "class" o has permutation while its plural, class *be-be*, has not, is quite beyond comprehension; one is the reciprocal of the other. Works of this character should be submitted to expert criticism before publication is decided upon.

N. W. THOMAS.

Festschrift.

Read.

Presentation Volume to Sir Charles Hercules Read on his retirement from the British Museum. Privately printed for subscribers only. London, 1921. **59**

The volume presented to Sir Hercules Read, a tribute on his retirement from the British Museum and a record of the chief additions to his department during a Keepership of 25 years, is a happy extension of the *Festschrift* that has of late years replaced in learned circles testimonials of a material kind.

With its 55 plates and Mr. Seymour Lucas's charming drawing of the presentee the book is a remarkable monument.

The objects illustrated range over some 3,500 years, geographically representing acquisitions from both the Old and the New World. All, in their different ways, are supreme examples, and it is to be noted that some were presented as a mark of recognition on Read's retirement, another of the many instances where the personal affection with which the former Keeper was regarded has benefited the National Collection.

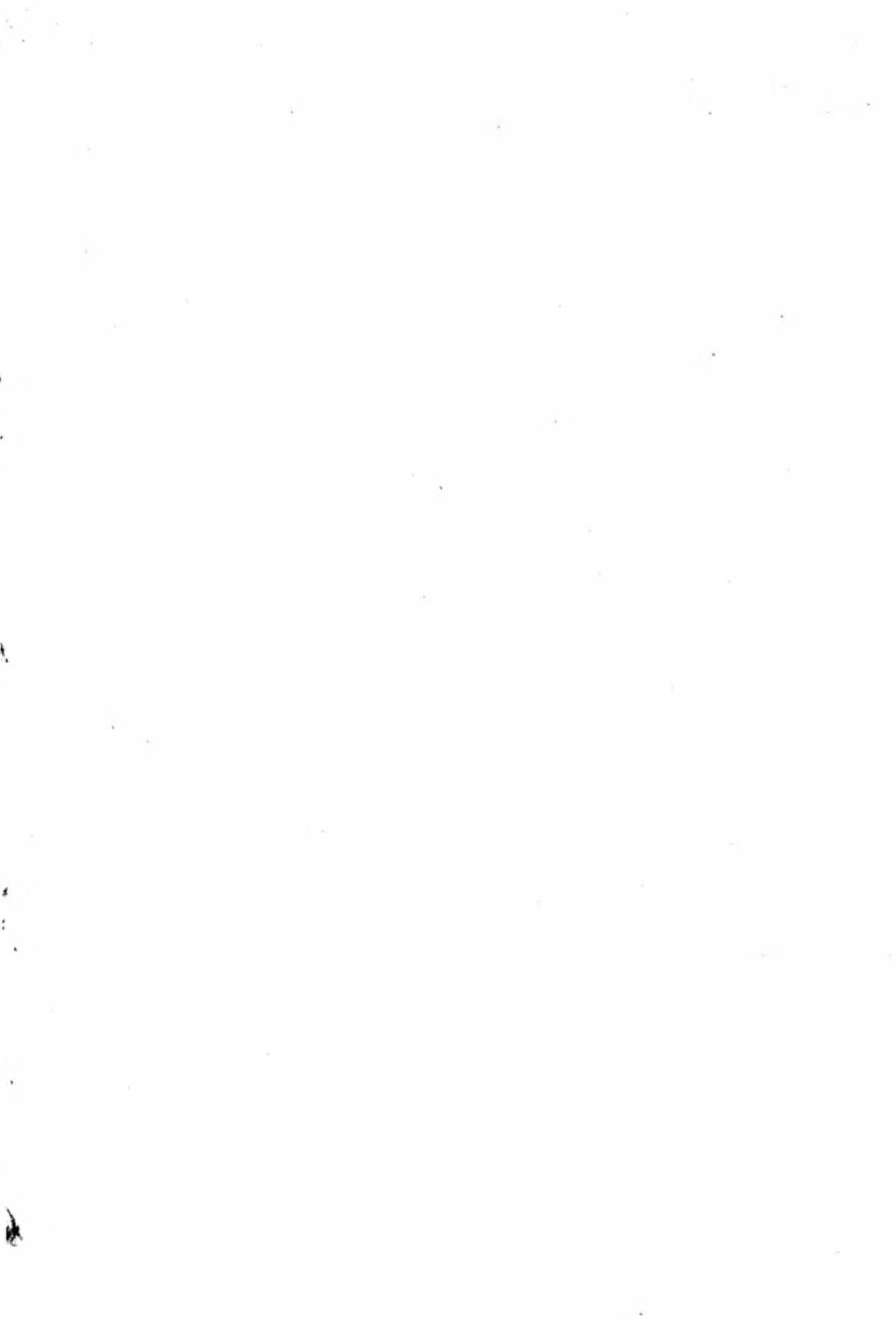
The assembled illustrations of so many splendid objects make the volume a delight; to select for mention any particular example is beyond the scope of this note, but the inclusion of two such widely separated masterpieces as the marvellous statue of the Lohan and the beautiful eighth century Irish brooch gives an idea of their variety. The descriptions of the plates are by experts, and the only thing to be wished is that it had been possible to place them on the same pages as the illustrations.

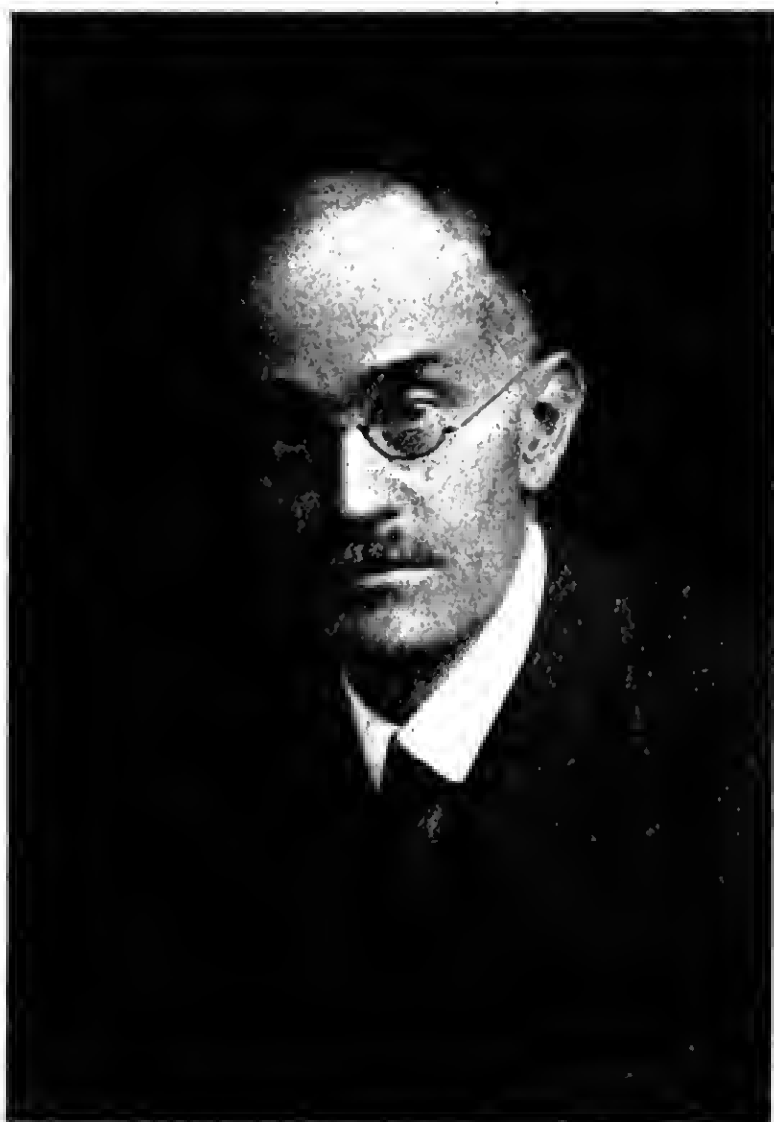
But the feature of the book is its witness to Read's connoisseurship and *flair*; to the inestimable value to the national collection of the insight and taste that led him to acquire specimens of such high merit and so greatly distributed in space and time. The modern need for specialisation, with its narrowing of knowledge to one particular form of art, makes it almost impossible for so broad a culture and so catholic a taste to be again united in one individual. The Trustees of the British Museum have recognised this by the recent division of the large department over which Read formerly presided.

A belief is expressed in the preface to the volume that the severing of the official tie between Sir Hercules Read and the British Museum will leave unbroken that stronger bond, the personal love of a great foundation. This must surely be so, and it may be permitted to hope that some means may be found by which Read's unique qualities may continue to be available for the service of the Nation and of that collection for which he has achieved so much. E. C. R. ARMSTRONG.

ANTHROPOLOGICAL NOTE.

The British School of Archaeology in Egypt. The annual exhibition of the discoveries of the British School of Archaeology in Egypt will be held **60** at University College Gower Street, London, from 3rd to 29th July, from 10-5, and will be open from 7 to 9 in the evenings of the 5th, 15th, and 25th. The anthropological interest will lie in the large number of palæolithic flints from various levels of the high desert, and the produce of 500 graves of the 1st dynasty—large flint knives for cutting and for scraping, copper adzes and axes, the earliest winged axe, ivory gaming pieces, and the evidences of living burial.





WILLIAM HALSE RIVERS RIVERS, M.D., F.R.S.

ORIGINAL ARTICLES.

With Plate G.

Obituary.

Haddon, Bartlett, Fegan.

William Halse Rivers Rivers, M.D., F.R.S., President of the Royal Anthropological Institute, born 1864, died June 4th, 1922. *By Alfred C. Haddon, Sc.D., F.R.S., and F. C. Bartlett, M.A., with a bibliography compiled by Ethel S. Fegan, Girton College, Cambridge.*

61

By the death of our President, the Royal Anthropological Institute and the science of anthropology have suffered an irreplaceable loss, as Dr. Rivers was in the plenitude of his multifarious activities.

The bare facts of his career are as follows :—

Dr. Rivers was born in 1864 and educated at Tonbridge and at St. Bartholomew's Hospital; he obtained the M.D. Lond. and the F.R.C.P., and was formerly Lecturer on Psychology at Guy's Hospital. At the invitation of Sir Michael Foster he came to Cambridge in October, 1893, to lecture on the psychology of the senses, and was made University Lecturer in Physiological and Experimental Psychology in December, 1897, and was given the degree of M.A. *honoris causa*. The two subjects were separated in 1907, when Rivers was appointed Lecturer in the Physiology of the Senses; but some years before his death he resigned that post, and since then held no University appointment. He was made a Fellow of St. John's College in 1902, and Prælector in Natural Sciences in 1919. He was appointed Croonian Lecturer to the Royal College of Physicians in 1906, and Fitzpatrick Lecturer in 1915-16. In 1908 he was made a Fellow of the Royal Society, gained the Royal Medal in 1915, and served on the Council from 1917 to 1919. He was President of the Anthropological Section of the British Association in 1911, and of the Psychological Sub-section in 1919. During the war he served as Captain R.A.M.C., and was appointed Medical Officer, first at the Military Hospital, Maghull, then at Craiglockhart War Hospital, and finally Psychologist to the Central Hospital, Royal Air Force. Among other offices he also held that of President of the Folklore Society in 1920-21, and of the Anthropological Institute from January, 1921, to the time of his death. He was also an Hon. LL.D. of St. Andrews and D.Sc. of Manchester.

A perusal of the appended bibliography of his writings will indicate the amazing extent of the interests of our late President, and at the same time it shows that up to the last his outlook was continuously broadening, but not at the expense of thoroughness. Those who were in contact with Rivers during the last thirty years cannot have failed to notice how alive he was to the expanding range of anthropological studies, and that he took no narrow view of the scope of anthropology, but recognised, as most of us do, that, while for the pressing, immediate needs of the science it is necessary for us to study the vanishing customs of native races, our science has a yet wider mission. Present conditions are as much anthropological material as are ancient or savage conditions, and latterly Rivers was turning his attention to these; to quote his own words: "the times are so ominous, the outlook for both our own country and the world so black, that if others think I can be of service in political life, I cannot refuse."

Perhaps the keynote of Rivers was thoroughness. Keeness of thought and precision marked all his work. His constant aim was, by scientific exactitude and strict terminology, to stabilise nomenclature and to formulate method in order to make ethnology a scientific discipline; vague guesses and insufficiently supported hypotheses were abhorrent to him.

The turning point in his career came when, in 1898, as the head of the psychological section of the Cambridge Anthropological Expedition to Torres Straits, he

was first brought into contact with natives not far removed from savagery; going as a psychologist pure and simple, he returned an ethnologist as well, having laid the foundation of his genealogical method of investigation which has proved in his hands, and in those of others, a very valuable instrument for sociological investigations in the field. Thus equipped, a few years later he made an intensive study of the Todas of South India, and his book (1906) proved how immeasurably preferable scientific method was to ill-trained or untrained observations.

In 1908 Rivers made his first expedition to Melanesia, where, with Mr. A. M. Hocart, he did intensive work in the Western Solomons; at the same time Mr. G. C. Wheeler was working in the Shortland Islands in collaboration with Rivers. The publication of his monumental book "The History of Melanesian Society" (1914) marks an epoch in ethnological research and method. His clear analytical mind enabled him to unravel the genealogies and kinship terms in which he delighted, and from which he deduced systems of relationship previously unknown, and also to recover sociological conditions which have now passed away. He found that systems of relationship and many customs concerning marriage, descent and other social institutions, were remarkably permanent under a veneer of introduced civilisation, and that often really valuable data could be gleaned from the most unpromising places. He also showed how certain institutions and customs have arisen, or have been profoundly modified, by the result of interaction between peoples, and he established several cultural complexes in Melanesia which can be definitely assigned to various immigrant peoples. The ideas, customs, and material objects which he associated together were not merely assumed to be associated, but were proved to be so, as they were linked together in definite ceremonial institutions. This led him to consider the general effects of one culture upon another and the migration of cultures, and these brought him to the conclusion that certain conditions which had usually been regarded as due to social evolution were more probably cases of social adjustment between a pre-existing and an immigrant culture.

In 1914 Rivers made a second expedition to Melanesia, which was mainly of the nature of a survey, and he intended in the near future to make a third expedition to the same region in order to amplify material already gathered and to fill up lacunæ. He had accumulated a considerable amount of information on the New Hebrides, a task in which he was being helped by various missionary and other friends, and we were looking forward to another memorable book on Melanesia which, alas! can never be written.

Dr. Rivers had accepted an invitation to deliver a course of lectures on Social Anthropology at the University of Calcutta next winter. He always maintained a great interest in the sociology of India, to which subject he had made several important contributions.

In addition to his numerous publications, Rivers has left a number of more or less finished lectures and papers, which he intended to publish, and as far as possible this will be done.

In Rivers we possessed a rare combination of ability, erudition, and experience. He saw things so clearly in his own mind that at times he seemed somewhat impatient with those who thought differently from himself; but this was solely on account of his logical habit of thought and his zeal for scientific precision in description and theory. Those who have worked with him in the field cannot fail to have noticed how his patience and sympathetic manner with natives enabled him to gain information where another investigator might have failed. His great knowledge of psychology combined with a wide acquaintance with men in all stages of culture, together with his unlimited patience, broad sympathy, and charming

manner rendered him peculiarly fitted for the delicate and highly important psycho-pathological work which he undertook during and immediately after the war. He never spared himself in this, or indeed in anything that he undertook. His success was very great, and his patients rightly regard him with intense gratitude and affection.

His numerous friends throughout the world will feel that by the death of Rivers they have lost a charming personality and a stimulating and bracing influence.

A. C. HADDON.

Dr. Rivers's psychological work fell naturally into three well-marked periods. Each period had its own dominant themes and purposes, but although these were different, they were in no way inconsistent. To himself, in fact, they appeared as one, and as the sustained expression of an absorbing interest in the study of man.

In 1897, partly in consequence of a movement set on foot twenty years earlier by Professor James Ward and Dr. Venn, he was appointed Lecturer in Experimental Psychology and later in the Physiology of the Senses in the University of Cambridge. This was the period of his experimental research. Throughout it was distinguished by a fidelity to the demands of experimental method very rare in the realms which he was exploring. His outstanding interest was in vision, and his article on that subject in Schäfer's "Handbook of Physiology" still remains, from a psychological point of view, one of the best in the English language. To this period also belong his researches in connection with the Cambridge Expedition to the Torres Straits; his Croonian Lectures on the influence of drugs on fatigue; and, finally, much of the work done in conjunction with Dr. Henry Head on cutaneous sensibility. Already his attention was much occupied by problems of psychopathology, discussions of which formed a part of the course he offered to his students at Cambridge. The amount and the value of this early experimental work have on the whole tended to be overlooked of late. In actual fact it was, as he himself often said, the foundation of all that came later.

Dr. Rivers's next period was that of his preoccupation with ethnological and sociological problems. But though his attention now turned in a new direction, he took with him all of that interest in method and loyalty to its demands which he had learned in the psychological laboratory. His anthropological work was never merely antiquarian; always primarily directed by a desire to understand the life of man in society. And if the first period contributed a recognition of the supreme importance of exact method, the second period added enormous vitality to his work by bringing him into the closest possible touch with the actual daily behaviour of human beings.

Thus when the war broke out and Dr. Rivers offered his services to the country, he possessed all the equipment of the experimentalist's love of exact method, together with the strongest possible bias never to lose connection with real life. His neurological work for officers and men, first at Maghull and Craiglockhart, and afterwards with the British Air Force, strengthened his realistic tendencies, and when, at the end of the war, he was able to turn his attention once more to problems of theoretical importance in psychology, his questions were not merely of the study and of the laboratory, but of real life, and his outlook was enormously widened by his sociological and neurological studies.

The last five years of his life were for Dr. Rivers a period of extraordinary activity. He published numerous papers, some ethnological, some neurological, some psychological; but all alike marked by originality of ideas and a new and brilliant incisiveness of expression. The old love of method showed itself in a great

care for exactitude of phraseology and definition, while no problem was ever taken up which was not at once lifted out of the realm of mere academic discussion and related in the most intimate way to the everyday feelings, longings, and ideas of men. His book, "Instinct and the Unconscious" at once furnished a rare stimulus to discussion, and a starting point for many new lines of research.

But no record of his published books and papers, or of the many offices which he held, can ever adequately indicate even a small part of Rivers's influence. His unbounded enthusiasm and vitality were particularly attractive to the young thought of Cambridge and of the many other centres in which he was well known. His remarkable influence as Prælector of Natural Sciences at St. John's College; his lectures on dreams, as yet unpublished, given at the Cambridge Psychological Laboratory; his Sunday evening "squashes" for students; his latest work of all, the public lectures on social psychology—all alike were intensely invigorating. They have gathered a band of young students who, if they are to carry out his own desire, will "push right through those lines of investigation which I shall never finish, but which I shall make it my business to begin." To all of these Rivers will be always more than a writer and a thinker, he will be remembered also as a man and as the very best of friends.

F. C. BARTLETT.

BIBLIOGRAPHY.

1888. A case of spasm of the muscles of the neck causing protrusion of the head. (*St. Bart.'s Hosp. Repts.*, XXIV., pp. 249-51.)
1889. Abstract of paper on "Delirium and its allied conditions," read before Abernethian Soc. (*St. Bart.'s Hosp. Repts.*, XXV., pp. 279-80).
1891. A case of treadler's cramp. (*Brain*, XIV., pp. 110-11).
1891. Abstract of paper on "Hysteria," read before Abernethian Soc. (*St. Bart.'s Hosp. Repts.*, XXVII., pp. 285-6.)
1893. Abstract of paper on "Neurasthenia," read before Abernethian Soc. (*St. Bart.'s Hosp. Repts.*, XXIX., p. 350).
1894. Review of O. Külpe's "Grundriss d. Psychologie auf experimenteller Grundlage dargestellt." (*Mind*, N.S., III., pp. 413-17).
1895. Review of H. Maudsley's "Pathology of Mind," and E. Kräpelin's "Psychologische Arbeiten." (*Mind*, N.S., IV., pp. 400-3).
1895. Paper on "Experimental psychology in relation to insanity," read before the Medico-Psychol. Soc. G.B. & I. (Abstract in *Lancet*, LXXIII., p. 867).
1895. Review of T. Ziehen's "Psychiatric f. Aertze und Studierende." (*Brain*, XVIII., pp. 418-21).
1895. On binocular colour mixture. (*Proc. Camb. Philos. Soc.*, VIII., pt. 5, pp. 273-7).
1896. On the apparent size of objects. (*Mind*, N.S., V., pp. 71-80).
1896. "Observations on mental fatigue and recovery," paper read before the Medico-Psychol. Soc. G. B. & I. (Abstract in *Lancet*, LXXIV., p. 711).
1896. On mental fatigue and recovery. (*J. Mental Science*, XLII., pp. 525-9).
1896. Über Ermüdung und Erholung, with E. Kräpelin. (*Psychol. Arbeit*, I., pp. 627-78).
1897. The photometry of coloured paper. (*Journ. of Physiol.*, XXII., pp. 137-45).
1899. Contributions to comparative psychology from Torres Straits and New Guinea. (*Rep. Brit. Assoc.*, 1899, p. 486, and *J.R.A.I.*, N.S., II., pp. 219-222). (With W. McDougall and C. S. Myers).
1899. Two new departures in anthropological method. (*Rep. Brit. Ass.*, pp. 789-90.)
1900. The senses of primitive man (Abstract in *Science*, N.S., XI., pp. 740-1, and trans. "Über die Sinne d. primitiven Menschen" in *Umschau*, XXV.).

1900. "Textbook of physiology," 6th ed. revd., Part IV., "The Senses," by Sir M. Foster, assisted by W. H. R. Rivers.
1900. Article on "Vision," in Schäfer's "Text-book of physiology."
1900. A genealogical method of collecting social and vital statistics. (*J.R.A.I.*, XXX., pp. 74-82).
1900. Report of Committee on mental and physical deviations from the normal among children in . . . schools (with others). (*Rep. Brit. Ass.*, 1900, pp. 461-6).
1901. The measurement of visual illusion. (*Rep. Brit. Ass.*, 1901, p. 818. *Title only*).
1901. Report of the Cambridge Anthropological Expedition to Torres Straits, Vol. II., Physiology and Psychology, pt. I., Introductory, and Vision, pp. vi., 140. Cambridge.
1901. On erythropsia. (*Trans. Ophthalm. Soc. Lond.*, XXI., pp. 296-305).
1901. Primitive orientation. (*Folk-Lore*, XII., pp. 210-12).
1901. The colour vision of the Eskimo. (*Proc. Camb. Philos. Soc.*, XI., pp. 143-9).
1901. Primitive colour vision. R. Inst. lect. (*Pop. Sci. Mthly.*, LIX., pp. 44-58).
1901. Review of W. A. Nagel's "Farbensinn d. Tiere." (*Brain*, XXIV., pp. 663-4).
1901. Review of A. Lehmann's "Körperliche Äusserungen psychischer Zustände." (*Mind*, N.S., X., pp. 402-4).
1901. The colour vision of the natives of Upper Egypt. (*J.A.I.*, XXXI., pp. 229-47).
1901. Colour vision: reviews of Holden and Bosse's "The order of development of colour perception and of colour preference in the child"; with notices of his own "Primitive colour vision" and "Colour vision of the Eskimo" (*Man*, I., pp. 107-9).
1901. On the function of the maternal uncle in Torres Straits; On the functions of the son-in-law and brother-in-law in Torres Straits. (*Man*, I., pp. 171-2.)
1902. Report of Committee on pigmentation survey of the schoolchildren of Scotland (with others). (*Rep. Brit. Ass.*, 1902, pp. 352-3; 1903, p. 415.)
1902. Note on the sister's son in Samoa. (*Folk-Lore*, XIII., p. 199.)
1903. Observations on the vision of the Uralis and Sholagas. (*Madras Govt. Mus. Bull.*, V., pp. 1-16).
1903. Toda kinship and marriage; the Toda dairy. (*Rep. Brit. Ass.*, 1903, pp. 810-12).
1903. The psychology and sociology of the Todas and the tribes of Southern India. (*Rep. Brit. Assoc.*, LXXIII., pp. 415-16).
1903. The funeral of Sunerani. (*Eagle*, XXIV., pp. 337-43).
1904. Reports of the Cambridge Anthropological Expedition to Torres Straits, V.: Genealogical tables; Kinship; Totemism (with A. C. Haddon); The regulation of marriage; Personal names.
1904. Note on R. C. Punnett's "On the proportion of the sexes among the Todas." (*Proc. Camb. Philos. Soc.*, XII., pp. 487-8).
1904. Toda prayer. (*Folk-Lore*, XV., pp. 166-81).
1904. Some funeral customs of the Todas (*title only*); On the senses of the Todas. (*Rep. Brit. Assoc.*, 1904, pp. 726, 749-50).
1904. Investigations of the comparative visual acuity of savages and of civilised people. (*Brit. Med. J.*, 1904, II., p. 1297).
1904. "Acuité visuelle des peuples civilisés et des sauvages." (*Ann. d'Ocul.*, CXXXII., pp. 455-).
1905. Observations on the senses of the Todas. (*Brit. J. of Psych.*, I., pp. 321-96).
1905. The afferent nervous system from a new aspect; (with H. Head and J. Sherren). (*Brain*, XXVIII., pp. 99-115).
1906. The Todas. Map, illus., 22cm. London.

1906. Demonstration of new apparatus for psychological tests. (*Proc. Camb. Philos. Soc.*, XIII., p. 392. *Title only*.)
1906. Report on the psychology and sociology of the Todas and other Indian tribes. (*Proc. Roy. Soc. B.*, 77, pp. 239-41).
1906. The astronomy of Torres Straits Islanders; A survival of twofold origin. (*Rep. Brit. Assoc.*, 1906, pp. 701-2).
1907. The marriage of cousins in India. (*J. R. Asiatic Soc.*, pp. 611-40).
1907. Report of a Sub-Committee appointed to advise on the publication of a new edition of "Notes and Queries on Anthropology" (with others).
1907. The action of caffeine on the capacity for muscular work. (*Journ. Physiol.*, XXXVI., pp. 34-47).
1907. On the origin of the classificatory system of relationships. (*Anthrop. Essays* pres. to E. B. Tylor, pp. 309-23. Oxford.)
1907. Report of Committee on anthropometric investigation in the British Isles; (with others). (*Rep. Brit. Assoc.*, 1907, pp. 354-68).
1907. Morgan's Malayan system of relationship; Some sociological definitions. (*Rep. Brit. Assoc.*, LXXVII., p. 640, and pp. 653-5).
1907. Review of C. F. Jayne's "String figures." (*Folk-Lore*, XVIII., pp. 112-16).
1908. Reports of the Cambridge Anthropological Expedition to Torres Straits, VI. (Eastern Islanders): Gencalogies; Kinship; Personal names; The regulation of marriage; Social organisation.
1908. The influence of alcohol and other drugs on fatigue. (Croonian Lects., R. Coll. Physicians, 1906). London: E. Arnold, pp. 144.
1908. A human experiment in norvo division; (with H. Head). (*Brain*, XXXI., pp. 323-450).
1908. The illusion of compared horizontal and vertical lines; (with G. D. Hicks), and The influence of small doses of alcohol on the capacity for muscular work (with H. N. Webber). (*Brit. J. of Psychol.*, II., pp. 241-80).
1909. Review of B. Thomson's "The Fijians." (*Folk-Lore*, XX., pp. 252-5).
1909. "Some notes on magical practices in the Banks' Islands," a paper read before the Folklore Soc. (*Folk-Lore*, XXI., p. 2. *Title only*).
1909. Totemism in Polynesia and Melanesia. (*J. R. A. I.*, XXXIX., pp. 156-80).
1910. The genealogical method of anthropological inquiry. (*Sociol. Review*, III., pp. 1-12).
1910. French trans. of above. (*Rev. d'Ethnogr. & de Sociol.*, Paris).
1910. The father's sister in Oceania. (*Folk-Lore*, XXI., pp. 42-59).
1910. Report of Committee on establishment of a system of measuring mental characters; (with others). (*Rep. Brit. Assoc.*, 1910, p. 267).
1910. Kava-drinking in Melanesia. (*Rep. Brit. Assoc.*, 1910, p. 734).
1910. The Solomon Island mask; (with Mrs. A. H. Quiggin). (*Man*, X., pp. 161-3).
1911. The ethnological analysis of culture. (Pres. Address to Section H. Brit. Assoc.). (*Science*, XXXIV., pp. 385-97; *Rep. Brit. Assoc.*, 1911, pp. 490-9; *Nature*, LXXXVII., p. 356).
1911. Report of Committee on mental and physical factors involved in education; (with others). (*Rep. Brit. Assoc.*, 1911, pp. 177-214; 1912, pp. 327-38; 1913, pp. 302-5).
1912. Reports of the Cambridge Anthropological Expedition to Torres Straits, IV., Astronomy.
1912. The disappearance of useful arts. ("Festschrift . . . E. Westermarck," Helsingfors, pp. 109-). (*Rep. Brit. Assoc.*, 1912, pp. 598-9).
1912. Island names in Melanesia. (*Geog. Journ.*, pp. 458-68).
1912. Conventionalism in primitive art. (*Rep. Brit. Assoc.*, 1912, p. 599).

1912. The sociological significance of myth. (*Folk-Lore*, XXIII., pp. 307-331).
1912. The primitive conception of death. (*Hibbert J.*, X., pp. 393-407).
1912. Obituary notice of Andrew Lang. (*Folk-Lore*, XXIII., pp. 367-71).
1912. Articles on Methodology, Marriage, Relationship, Property and Inheritance in Part III., Sociology, of "Notes and Queries on Anthropology," 4th ed.
1913. Survival in sociology. (*Sociol. Rev.*, VI., pp. 293-305).
1913. Report on anthropological research outside America. (Carnegie Inst. of Washington publns., 200).
1913. A gypsy pedigree and its lessons; (with G. Hall). (*Rep. Brit. Assoc.*, 1913, p. 625).
1913. Massage in Melanesia. (Paper read at the 17th Internat. Congress of Medicine, sect. xxiii., pp. 39-42. Lond.)
1913. The bow in Now Ireland. (*Man*, XIII., p. 54).
1913. The contact of peoples. (Essays . . . to W. Ridgeway, pp. 474-92. Cambridge).
1913. Sun-cult and megaliths in Oceania; R. Inst. lect. (*Rep. Brit. Assoc.*, 1913, p. 634, and *Amer. Anthropol.*, N.S., XVII., pp. 431-45).
1914. Notes on the Heron pedigree. (*Gypsy Lore Soc.*, VII., pp. 88-104).
1914. The history of Melanesian society. (Percy Sladen Trust Expedition to Melanesia, 2 vols. Cambridge).
1914. Kinship and social organisation. (Studies in Economic and Political Science, No. 36).
1914. Kin, Kinship. (Hastings' "Enc. Religion and Ethics," VII., pp. 700-7).
1914. Is Australian culture simple or complex? Gerontocracy and marriage in Australia. (*Rep. Brit. Assoc.*, 1914, pp. 529-32).
1915. Descent and ceremonial in Ambrim. (*J. R. A. I.*, XLV., pp. 229-33).
1915. Review of Prof. G. Elliot Smith's "The migrations of early culture." (*J. Egyptian Archaeol.*, II., pp. 256-7).
1915. The boomerang in the New Hebrides. (*Man*, XV., pp. 106-8).
1915. Melanesian gerontocracy. (*Man*, XV., pp. 145-7).
1915. Marriage (Introductory and Primitive); Mother-right (in Hastings' "Enc. Religion and Ethics," VIII., pp. 423-32, 851-9).
1916. Medicine, magic, and religion. (Fitzpatrick Lects. 1915). (*Lancet*, XCIV., pp. 59-65, 117-23).
1916. Irrigation and the cultivation of taro. (*Nature*, XCVII., p. 514, and Abst. in *Manchester Lit. and Phil. Soc. Mem. and Proc.*, LX., pp. xlv.-v., 1917.)
1916. Sociology and psychology. (*Sociol. Rev.*, IX., pp. 1-13).
1917. Freud's psychology of the unconscious. Paper read at the Edinburgh Pathological Club, Mar. 7, 1917. (*Lancet*, XCV., pp. 912-14).
1917. A case of claustrophobia. (*Lancet*, XCV., pp. 237-40).
1917. Medicine, magic, and religion. (Fitzpatrick Lects.). (*Lancet*, XCV., pp. 919-23, 959-64).
1917. New Britain, New Ireland, New Caledonia, New Hebrides. (Hastings' "Enc. Religion and Ethics," IX., pp. 336-9, 352-5).
1917. Dreams and primitive culture. (*Bull. J. Rylands Library*, IV.).
1917. The government of subject peoples. ("Science and the Nation," ed. A. C. Seward, pp. 302-323).
1918. The repression of war experience. Paper read before the Section of Psychiatry, R. Soc. Medicine, Dec. 1917. (*Lancet*, XCVI., pp. 173-77).
1918. Psycho-therapeutics. (Hastings' "Enc. Religion and Ethics," X., pp. 433-40).
1918. War neurosis and military training. (*Mental Hygiene*, II., pp. 513-33).
1918. Maori burial chests. (*Man*, XVIII., p. 97).
1918. Why is the "unconscious" unconscious? (*Brit. J. Psychol.*, IX., pt. 2, pp. 236-46).

1919. Psychology and medicine. (Pres. Address Medical Section, Brit. Psychol. Soc.). (*Lancet*, XCVII., pp. 889-92).
1919. Mind and medicine. (*Bull. J. Rylands Library*, V.).
1919. Psychiatry and the War. (*Science*, N.S., XLIX., pp. 367-9).
1919. Review of C. Wissler's "The American Indian." (*Man*, XIX., pp. 75-6).
1919. Psychology and the War; Pres. address to Brit. Assoc., Sub-Section Psychology. (*Rep. Brit. Assoc.*, 1919, p. 313. *Title only.*).
1920. Studies in neurology (with H. Head and others). Oxford Medical publns. 2 vols.
1920. Anthropology and the missionary. (*Church Miss. Review*, Sept.).
1920. Instinct and the unconscious. 1st edit. Cambridge.
1920. The dying-out of native races. (Lect. at R. Inst. Public Health, May, 1918). (*Lancet*, XCVIII., pp. 42-4, 109-11).
1920. The concept of soul-substance in New Guinea and Melanesia. (*Folk-Lore*, XXXI., pp. 48-69).
1920. Freud's conception of the censorship. (*Psycho-analytic Rev.*, VII., 3).
1920. History and ethnology. (*History*, N.S., V., pp. 65-80).
1920. Ships and boats; Solomon Islands. (Hastings' "Enc. Religion and Ethics," XI., pp. 471-4, 680-5).
1920. Review of Mrs. Scoresby Routledge's "The mystery of Easter Island." (*Folklore*, XXXI., pp. 82-7).
1920. Review of R. H. Lowie's "Primitive society." (*Amer. Anthropol.*, XXII., pp. 278-83).
1920. The statues of Easter Island. (*Folk-Lore*, XXXI., pp. 294-306).
1920. Instinct and the unconscious. (*Brit. J. of Psychol.*, X., pp. 1-7).
1920. Psychology and medicine. (*Brit. J. of Psychol.*, X., pp. 183-93).
1921. The origin of hypergamy. (*J. Bihar and Orissa Research Soc.*, Patna, VII., pp. 9-24).
1921. Conservatism and plasticity. (Pres. Address to the Folk-Lore Soc.). (*Folk-Lore*, XXXII., pp. 10-27).
1921. Affect in the dream. (*Brit. J. Psychol.*, XII., pp. 113-24).
1921. Kinship and marriage in India. (*Man in India*, I., pp. 6-10. Ranchi).
1921. The Todas. (Hastings' "Enc. Religion and Ethics," XII., pp. 354-7).
1922. Instinct and the unconscious. 2nd edit. Cambridge.
1922. Psycho-neurotic symptoms associated with miners' nystagmus. (Medical Research Council: Special Report Series, 65, pp. 60-64).
1922. Methods of dream analysis. (*Brit. J. Psychol.*, Medical Section II., pt. 2, pp. 101-108).
1922. The symbolism of rebirth. (Pres. Address to Folk-Lore Soc.). (*Folk-Lore*, XXXIII., pp. 14-33).
1922. (In the press). The psychological factor. (Essays on the depopulation of Melanesia, ed. W. H. R. R., pp. 83- . Cambridge).
1922. (In the press). History and Ethnology, with bibliography. (Helps for Students of History, No. 48, S.P.C.K., Lond.).
1922. (In the press). The relation of complex and sentiment. (*Brit. J. Psychol.*, XIII.)

ETHEL S. FEGAN.

Britain: Archæology.

Moir.

The Red Crag Flints of Foxhall. By J. Reid Moir.**62**

Mr. Warren informs the readers of MAN (1922, 53) that in regard to his opinion of the Foxhall flints, certain considerations urged him to take adequate time for the "re-consideration of the whole subject from every point of view." As, however, at the time of writing his note upon these specimens, he had not seen or examined the section where they are found, it would seem that his wish, in one vital particular, has not been fulfilled.

It is true that a certain number of the flint implements and flakes found at the 16 ft. level in the Red Crag at Foxhall bear some small striæ upon their flaked and "patinated" surfaces, as do those of a large number of palæolithic and neolithic specimens found in various parts of the country. And it is also true that, as in the case of the last-mentioned implements, the slight pressure to which some of the Foxhall flints have been subjected has had as little to do with the formation of the flake-scars which they exhibit. Mr. Warren states that, when he visited Ipswich, his attention was "particularly directed" to a Foxhall specimen, of which he states "one may note the flatness and poor development of the cone of percussion, and the pressure hollows on the edges, each important point distinctive of mechanical action."

In the first place, this specimen was not found at Foxhall, but *beneath* the Red Crag at Thorington Hall, Wherstead, a place distant some 6 miles to the south-west of the Foxhall pit. This is made abundantly clear in my paper quoted by Mr. Warren (*Proc. P.S.E.A.*, Vol. III., 1921, p. 391, Fig. 1). Secondly it is incorrect to state that the cone of percussion of this particular specimen is "poorly developed," as indicating that it resembles in anyway the cones of pressure to which this term may be with truth applied.

As regards Mr. Warren's statement that he noticed the "flatness" of the cone of percussion, little need be said, as such an expression is a contradiction in terms, and has no real meaning.

Finally, the specimen under discussion exhibits no pressure hollows in its edges, nor does it show any sign of having been flaked by what your correspondent terms "mechanical action." It may be of interest to quote Dr. Capitan's opinion of this Thorington Hall specimen as published in the last number of the *Revue Anthropologique* ("Les silex tertiaires d'Ipswich" (avec 8 figures). Mars-Avril 1922). The implement in question was sent, with other such Red Crag examples, to Dr. Capitan for examination. He states: "Le numéro 4 est un beau racloir de type absolument moustérien, formé d'un très épais éclat de plus de 4 centimètres d'épaisseur avec très gros bulbe de percussion [my italics]. . . . Le bord opposé est soigneusement retouché sur une assez grande épaisseur . . . , à gauche et en avant la pièce forme une sorte de bec relevé comme dans certains types de racloirs moustériens. C'est en effet ainsi qu'il a été dénommé *morphologiquement* par tous les spécialistes qui l'ont examiné. Si l'on nie cette pièce, il faut alors refuser d'admettre comme taillés le plus grand nombre des racloirs moustériens."

J. REID MOIR.

Assam: Technology.

Hutton.

Note on a Type of Snare from the Phom Country. By Lieut.-Colonel J. H. Hutton.

63

In "The Angami Nagas" (pp. 87, 88) and in "The Sema Nagas" (pp. 78-80) I have described some of the snares commonly in use in the Naga Hills. In a recent tour in the Phom country, an unadministered and almost unvisited tract, I observed a type of snare (Fig. 1) in use which was new to me, although both Sema Nagas and Thado Kukis tell me that it is known to them.

The principle is, as usual, that of the bow. The string is double and is attached to the stave at the lower end in the usual way by means of a notch. At the upper end, however, this double string is not attached to the stave, but runs through a hole in the stave. This is the end formed into a loop by the doubling of the string, and the doubled string is lightly knotted about 5 inches below this looped end. Attached to the back of the stave is a peg about 5 inches long ending in a long thorn at right angles to the peg of which it forms a natural part.

To set the snare, the string is pulled through the hole till the knot is through, when the peg is inserted in the hole under the knot, the pull on which holds it in place. The loop made by the string above the knot is spread over the peg, and a live insect is impaled on the thorn of the peg. When a bird, attracted by the insect's flutterings, alights on the peg, its weight dislodges the peg from the hole, and the bow is sprung, drawing the loop tight against the stave with the legs of the bird confined between the end of the loop and the back of the bow. When the snare is set, the bow is hung on the branch of a tree or shrub, which passes through the upper angle made by the string with the stave. In the specimens seen by me the length of the stave, when unstrung, was approximately 30 inches.

The Thado Kukis say that they also are acquainted with this snare and call it "toupel." The Semas, who call it "akwegen," seem to use a seed as the lure instead of an insect.

I have sent specimens of the Phom form to the Pitt Rivers Museum at Oxford.

J. H. HUTTON.

Europe: Archæology.

Palmer.

The Ice Age and Man in Hampshire. By L. S. Palmer, M.Sc., Ph.D.

I.—INTRODUCTION.

64

In view of the important differences between the chronological tables recently published by Mr. H. J. E. Peake* and by Mr. J. Reid Moir,† a preliminary account of some results from the Portsmouth district may be of interest, and may possibly assist in deciding whether Mousterian man was contemporary with the last, or the last but one, glacial epoch.

II.—THE HAMPSHIRE PLEISTOCENE DEPOSITS.

Very briefly, the southern portion of the Hampshire district yields examples of stratified gravels at about 15 ft., 50 ft., and 100 ft. levels with raised beaches at similar levels (e.g., Selsey, Portsdown and Westbourne respectively), whilst from

* MAN, 1922, 5.

† MAN, 1922, 35.

100 ft. to 400 ft. unstratified gravels extend in broken sheets over the southern portions of the Hampshire basin.

The lower stratified gravels are usually overlain with coombe rock, brickearth or loam, whilst the gravels themselves frequently overlie sand or loess deposits which sometimes show less stratification. The two lower raised beaches usually contain erratics and fossils indicative of a colder climate, both of which are in keeping with the unconformity with which the gravels frequently overlie the sandy loam. No loess or sand overlies the most superficial brickearths; but thin strata of sandy material often destroy their homogeneity.

The higher unstratified "Plateau" gravels are not overlain with brickearth and contain both angular and subangular flints together with pebbles and non-local Tertiary materials: the whole suggestive of a deposit derived from older and higher levels and not due, as in the case of the lower "Terrace" gravels, to river action. The damming of any drainage area by ice may account for such a formation and will also account for the different maximum levels at which such deposits are found in the Thames and Hampshire basins. The more severe Mindel or Riss ice epoch, which would affect both areas, might reasonably cause such an ice block during its later stages. The absence of marine shells would thus be accounted for.*

III.—THE FLINT CULTURES.

Aurignacian and Mousterian flints have been found in the brickearth which overlies the 15 ft. gravels,† whilst Chellean and Acheulean implements occur in the upper unstratified gravels, and are also frequently obtained from the 15 ft. gravels, the material for which has been derived partly from these higher gravels. In Buckinghamshire‡ and the Thames§ Mousterian flints have been found in the 50 ft. gravels above Acheulean and Chellean forms, whilst only as surface finds have Mousterian artefacts been found on the higher gravels. This is particularly noticeable about the 600 ft. contour where numerous implements, flakes and cores on the "clay with flints" suggest that Mousterian man lived on these hills, which at that time may have been comparable with "nunataks" only in a district of water and ice, rather than in a district of glaciers.

IV.—GEOLOGY—CLIMATE CORRELATIONS.

The following general considerations have been found useful when interpreting these and other facts concerning the Hampshire district. An ice epoch will be preceded, normally, by a period of dry cold weather due largely to the locking up of water at the pole. A loess deposit may therefore be expected to herald a cold period. The melting of ice will result in, firstly, the formation of gravel terraces as the torrential streams and ice-laden rivers cut down their beds and deposit the coarser materials along their banks; and secondly, the formation of brickearths and coombe rock due to the heavy rains consequent on the increased humidity resulting from a gradually ameliorating but extreme climate. We should not, therefore, expect the brickearth of the most recent ice epoch to be covered with loess, since such a deposit is typical of an approaching cold period. The deepening of the river valleys also pre-supposes some elevation of the land which usually occurred with the retreat of the ice fields. Extremes of humidity (rather than of temperature) resulting from minor oscillations in the departing ice age may possibly account for the layers of loess which occur in the most recent brickearths. These strata I believe to be contemporary with the layers seen in the bone fissures, and both to be due to excessive wet and dry periods caused by climatic oscillations of the departing ice age and not to a jerky uplifting of the land after a thousand foot

* *Quart. Journ. Geol. Soc.*, XLVIII., p. 332.

† *Proc. Geol. Soc.*, No. 947, 1913.

‡ *Proc. Geol. Assoc.*, XIV., p. 153.

§ *Proc. Geol. Assoc.*, 1915.

submergence as has been stated * The "cold" but not Arctic fauna of the raised beaches, contrasted with the "warmer" fauna usually associated with Chellean man, is also evidence that these beaches, with the respective river gravels, were contemporary with times of abnormally low temperatures. The presence of Chellean and Acheulean flints in the lowest gravels is probably due to the fact that the material is partly derived from the older plateau gravels.

V.—GEOLOGY—CULTURE CORRELATIONS.

Before drawing any conclusions from the foregoing summary, three points, which have considerably assisted when correlating "human" flints with gravel deposits, will be mentioned—

(1) Since a flint can pass from a higher and older to a lower and newer gravel at any period, the lowest artefact in any terrace has been taken for determining the date of the gravel.

(2) With gravel deposits the lowest contained flint culture is assumed to be that derived from the *preceding* age. This assumption was made because it was thought that contemporary man would not, as a rule, deposit his implements in the neighbouring river. With cave deposits the flint is, normally, contemporary with the stratum in which it is found. Thus, from this standpoint, a Mousterian flint in the base of the brickearth or sand means that Mousterian man was probably living whilst the underlying gravel was being deposited. Hence the significance of the *upward* slope of the arrows in the diagram. The application of this principle will bring into line many of the apparent discrepancies which appear in the older literature on the Thames and other gravel deposits of the south-east of England.

(3) The upper layer of the lowest terrace is probably the most recent deposit, whilst the lowest layer of the upper terrace is the oldest. Thus, considering the Thames, Somme, Farnham and Hampshire gravels in general we find the following interesting distribution of flints :—

Position in Terrace.		Height of Terrace above Sea.			
		15 Ft.	50 Ft.	100 Ft.	150 Ft.
Top	1 . .	—	Neolithic.	—	—
	2 . .	Neolithic.	Aurignacian. Solutrean.	Mousterian.	Acheulean.
	3 . .	Aurignacian.	Mousterian.	Acheulean.	Chellean.
	4 . .	Mousterian.	Acheulean.	Chellean.	Strepyan (?).
Bottom	5 . .	—	Chellean.	—	—

Thus, as a general rule, the cultures will be found in their normal order as, for example, in the 15 ft. river gravels round Portsmouth. Should the newer and more superficial deposit be washed from higher and older levels an earlier culture will often overlie a more recent one as at Caddington in Bedfordshire, or at Hill Head, West of Portsmouth.

VI.—RESULTING CLIMATE—CULTURE CORRELATIONS.

In general, the evidence outlined above, together with the more detailed information which it is hoped will be amplified and published later, leads to

* *Quart. Journ. Geol. Soc.*, XLVIII., pp. 338, 340.

the following imaginary section illustrating man's relation to the ice age in Hampshire:—

CLIMATIC PERIOD.	COLDER. PRESENT TEMPERATURE WARMER	HAMPSHIRE DEPOSITS.	CULTURE IN LOWEST LEVEL OF DEPOSIT.	CONTEMPORARY CULTURE. Evidence from Non-fluvialile Deposits
RECENT		ALLUVIUMS & PEAT	NEOLITHIC	MODERN
DAUN?		BRICK EARTH LOESS		NEOLITHIC
Gschnitz?		BRICK EARTH LOESS	MAGDALENIAN? (Thames)	
BÜHL		BRICK EARTH	AURIGNACIAN	
ACHEN		COOMBE ROCK. RUBBLE HEAD SAND and LOAM. BLOWN SAND	MOUSTERIAN	MAGDALENIAN AURIGNACIAN.
WÜRM		50' RIVER GRAVEL TERRACE 50' RAISED BEACH SANDY GRAVEL & LOESS	(NIL.)	LATE MOUSTERIAN
RISS-WÜRM		BRICK EARTH.		EARLY MOUSTERIAN (Taubach)
RISS		50' RIVER GRAVEL TERR. 50' RAISED BEACH SAND DUNES & CLAY.	ACHEULEAN & CHELLEAN (BUCKS.)	(Too cold for man)
MINDEL-RISS		100' RIVER GRAVEL TERRACE (WARM)		
MINDEL		HIGH LEVEL PLATEAU GRAVELS. 100' to 400'	ACHEULEAN & CHELLEAN	ACHEULEAN (fluvialile Deposits) CHELLEAN (Too cold for man)
GÜNZ-MINDEL?		? CLAY WITH FLINTS.		ACHEULEAN? CHELLEAN?
PLIOCENE		CLAY WITH FLINTS.		
		EOCENE BEDS.	* Probable position if evidence were available from non-fluvialile deposits.	

Actually only three or four of the above deposits are present in any one section.

In accordance with the foregoing chronology, chalky boulder clay, which according to Monckton precedes the 100 ft. terrace,* will be contemporary with the Mindel glaciation. This is in agreement with Brooks and Marr† and may not be contrary to the chronology of Peake since there are at least two chalky boulder clays, one of which apparently just precedes the Aurignacian cave deposits of South Wales.

The most interesting comparisons, however, arise from consideration of the resulting equations between the glaciations and the cultures. With pre-Mousterian man the above diagram is in agreement with that of Reid Moir, since the method of analysis adopted forces the conclusion that Chellean man (at least) was existing in pre-Mindel times; whilst with post-Mousterian man it is in agreement with that of Peake.

VII.—CONCLUSION.

It is realised that the foregoing chronology is only tentative. It is based on the evidence of the Hampshire district mainly, and although in substantial agreement with the evidence from many other districts, such as Gower for example, it is difficult to reconcile the above geological chronology with those who consider all the terraces to have been formed in pre-Chellean times because of such evidence as the Chellean flint factory at Crayford; or with those who, in the other extreme, consider all the terraces to have been formed in rapid succession in post-Magdalenian times.

However, with Mousterian and post-Mousterian cultures the foregoing conclusions are in close agreement with those of Peake and also with a chronological table recently published by Burkitt,‡ and thus they agree with the equation by which Mousterian man is coupled with the Würm ice epoch.

To Mr. M. C. Burkitt I am indebted for the original stimulus which prompted this investigation, and to Colonel J. H. Cooke for much information resulting from his extensive field work in this district.

L. S. PALMER.

REVIEWS.

Balkans: Physical Anthropology.

Pittard.

Les Peuples des Balkans. Recherches anthropologiques dans la Péninsule des Balkans, spécialement dans la Dobroudja. By Eugene Pittard, professeur d'Anthropologie à l'Université de Genève, 1920. 65

For perhaps the first time we have an anthropometrical survey of the whole Balkans made for scientific and not propaganda purposes. The author offers it as a mere beginning. A land which in historic times has been invaded by Celts, Romans, Visigoths, Ostrogoths, Croats, Bulgars, Serbs and Turks, and beneath them has prehistoric peoples, presents a tangle which needs much unravelling. It is a specially valuable area for study as there is a mass of documentary evidence concerning the invasions with which to check and compare anthropometric results.

The Professor has, in several instances, by purely anthropometric methods arrived at the same conclusions as has the reviewer by historic investigations and the study of the customs and beliefs of the people.

Thus the author finds that the so-called Albanian colonists in Italy, who are still Albanophone and who date mainly from the time of the Turkish conquest of Albania, differ markedly from the Albanians of Albania, the Italo-Albanians being dolicho- or meso-cephalic and shorter in stature than the brachy- and hyper-brachycephalic people of Albania. The reviewer has quite recently translated an account of Albania written in 1332 which describes the towns as inhabited by

* *Proc. Geol. Assoc.*, Vol. 18 (1904), p. 410.

† *MAN*, 1922, 47

‡ *Proc. Prehistoric Soc. of E. Anglia*, Vol. III., Pt. II., (1919-20).

Latins and the country by "Abbanois speaking a quite other tongue." The Turkish conquest took place in 1479. The Latins had therefore over a century in which to become Albanophone. When the Turkish conqueror came the countryfolk would naturally take refuge in their mountains and the town folk, flying from the burnt and sacked towns, leave the country if possible. Professor Pittard's facts seem to prove that they did so. By anthropometry he concludes also that the folk of the Western side of the peninsula, Bosniaks, Herzegovinese and Montenegrins form a distinct ethnic group which cannot be regarded as the descendants entirely of the Serb invaders of the fifth-seventh centuries according to the oft-repeated tale. This opinion is confirmed by the fact, which he has not noted, that tattooing is still largely practised by this group and prevails far into Albania, using variants of the same designs. Herodotus and other writers tell that tattooing was a custom of the early Balkan tribes, whereas we believe it is not anywhere a Slavonic custom. Moreover the ornaments found in prehistoric graves often resemble those worn to the present day.

Professor Pittard regards the Serbs of Serhia as mesocephalic, but his measurements are taken mainly from Pirot, which we regard as a Bulgar area, and are therefore not conclusive. The Serbs themselves have made almost no investigations. The Bulgars on the contrary have made a careful study of their army and are shown to be mainly a dolichocephalic people, rather less in stature than the Bosniak group and considerably darker.

One main result of Professor Pittard's studies is that from the Adriatic to the Black Sea we pass from a brachy or hyperbrachycephalic and very tall people to a shorter and dolichocephalic people. Another is that of all the Balkan peoples he finds the Turks and Greeks most nearly related. So nearly as to indicate a common origin. In the mixed population of the Dobroudja he has studied the Jews, Armenians, Laz, Gagouaz, Tartars, Kurds, etc., and gives a chapter to the curious eunuch sect, the Skoptsy, who are refugees from Russia.

We agree with the author that it is in Albania that a thorough investigation would lead to the elucidation of many Balkan problems. His measurements have been taken mainly in Scutari. We fancy that other results would be found among the smaller and darker men of the Dukagini mountains. The Berisha, for example, declare they have "always" lived in their present lands. The men of the Scutari mountains count only fourteen generations in their lands, but state that there were "Anas" living there when they came. The strict marriage laws in many parts of the Balkans whereby certain tribes always marry into certain others have produced marked local types which cannot be taken as representative ones. We look forward to Professor Pittard's further work with great interest. M. E. DURHAM.

Physical Anthropology.

Lacassagne.

La Verte Vieillesse. By Professeur A. Lacassagne. 394 pp. Imprimerie A. Rey, Lyon, 1920.

66

This charming little book, full of good sense and wisdom, by a veteran Honorary Fellow of the Royal Anthropological Institute, deserves the attention of anthropologists. They should desire to live long and healthfully, in order to do good work. Although the subject may be somewhat beyond the scope of MAN, a few notes and maxims must be given. Physical anthropologists will find new theories and ideas discussed, with references and quotations from other writers.

As man takes twenty years to grow, he should live to a hundred. Professor Lacassagne calls from 60 to 70 the spring of old age; 70 to 75 green old age; 75 to 80 real old age; 80 to 90 ultimate old age. But where the welfare of the elderly is understood, five or ten years may be added to each period. "Most men die

" from diseases, many from excess of alimentation, very few of old age. The great cause of shortened life is excess of nourishment." Three times too much is usually eaten. Longevity occurs among the rich who live moderately, and the poor who have sufficient. To gormandise is one of the most dangerous cardinal sins. The man of 50 permits himself a *débauche alimentaire* which results in diseases of nutrition such as gout and its varieties.

A comparative table of ages of the population of France in 1911 is given. There were twenty-five male centenarians and eighty-two females, whose ages were certified by the respective mayors.

In Chapter VI. the symptoms of approaching old age are described. The psychio brain is the last organ to weaken (p. 134). Gambetta's brain at 44 was singularly perfect in its convolutions, and the mould taken from it was ideal for showing the relations and functions of the brain's surface (p. 151). J. J. Rousseau was a "neurasthénique artério-scléreux, du type arthritique et constitutionnel" (p. 155). His failing condition at the age of 64 to 66, described by himself, shows the fundamental characters of pre-senile decadence.

The seventh chapter is the most important, and should be carefully studied for its concentrated knowledge. In this and the succeeding chapter the mechanism of production of the senile state, and the medico-legal aspects of partial brain decay are considered. Senility is "a cellular perturbation with a wearing out of the tissues, and obstacles to the functional mechanism through the loss of elasticity and deposit of mineral substances. . . . There has been no profound research into the causes of senility until recent years. Can the changes produced in the organism be prevented or retarded? We do not know whether they are due to a natural evolution or a *désharmonie*. That is the problem (p. 169). . . . When the organism is developing, it maintains itself by the co-operation of all the organs for the general welfare. When old age begins, the functions become independent, atrophied, isolated" (p. 202).

Remarks on "family complexities" caused by respective points of view, depending on age (such as differences of opinion between father and son), lead up to an analysis of what Professor P. Janet calls psychasthenia. In this study the French were earlier than the school of Freud and his psycho-analysis. The subject is of interest for every one who has to do with persons who have become partly abnormal mentally, though sane enough in some ways. "Sufferers from psychasthenic neurosis have trouble in apprehending what is real and present, in perception and action. . . . there is an absence of decision, of voluntary resolution." The author regrets that there is still insufficient knowledge of the important sympathetic nervous system, and also that in France it is very difficult to procure bodies for autopsy with the organs sufficiently fresh for observation.

The increasing weakness of old age may be arrested by a change of climate and diet. Ethnologists should observe the condition of the aged in countries where they have led a healthy, primitive existence. Does civilisation help or impede survival of the faculties which might afford a happy old age?

The author's rules for diet in old age* are: a light breakfast between 6 and 8; midday dinner of two dishes, a sweet and two ounces of light wine or beer; a small and simple supper at 7. No spirits, little meat, salt or bread. "The organs of the old need the application of two physiological laws: the law of least effort and the law of habit." There must be daily exercise of all the muscles. "Bien mâcher et bien marcher" must be the motto.

A pleasant chapter of extracts contains many wise sayings and thoughts of philosophers, from Cicero to Lamennais.

A. C. B.

* For Frenchmen.



FIG. 1.



FIG. 2.

DIVIDED AND DECORATED HEADS AS TROPHIES (ASSAM).

ORIGINAL ARTICLES.

With Plate H.

Assam: Head-hunting.

Hutton.

Divided and Decorated Heads as Trophies. By Lt.-Col. J. H. Hutton.

67

In "The Angami Nagas" (p. 383) I gave illustrations of the Konyak fashion of decorating heads taken from enemies and also of the method of dividing heads in the taking of which more than one warrior had shared. In a recent visit to an independent Ao village, I observed a combination of the two practices, which I have not observed in the Konyak tribes, though the Ao village in question (Yacham) has probably an admixture of Konyak as well as of Phom blood. In addition to complete skulls adorned with mithan or with buffalo horns, or with wooden imitations of these, many houses had trophies hung up in which the skull was only partly human, the taker having only got a share of the head. In such cases the rest of the head was made of wood, or else from the skull of some animal, in one case that of a pig, while in another the missing half was ingeniously fabricated from two skulls of the black gibbon (*hylobates huluk*), making the skull look as if it had three eyes. I was able to secure several specimens of these composite skulls, and have sent them to the Pitt Rivers Museum at Oxford. The object of the horns is said to be to prevent the dead man's hearing the call of his friends searching for him, as, if his soul were to go to them, it would instigate them to revenge, whereas if it remain with the taker of the head, it lures its late relations to put themselves within reach of the possessor of the head and lose their own to him as well. Some Ao villages used to attain the same end by stringing the skull of one of their own dogs above the skull of their enemy. The soul of the dog made such a harking whenever the strange relations of the dead man came within call of him, that he never heard them imploring his soul to return.

In Plate H, Fig. 2, Nos. 1, 2, 3 are human heads; 4—left half human, right half made from a pig's skull; in No. 5—the left half is human, the right half and lower jaw of wood; No. 6—the lower jaw is human, the rest is composed of two skulls of the black gibbon; No. 7—the lower jaw human, the rest wood. N.B.—The horns on 1 and 7 are imitation, being of wood and of hamhoo root respectively; 2 and 3 are mounted with buffalo horns, the others with those of the domestic mithan (*bos frontalis*).

A number of the limbs of victims of a recent raid were hung in trees on the outskirts of Yacham village. Similar trophies are hung up by Phoms in the clan 'morung' or men's club-house. It is interesting to note that north of the Brabmaputra, though head-hunting is not practised, some tribes, the Abors for instance, cut off the hands of their slain enemies and hang them in the 'morung.' The limbs hung up outside Yacham were pierced with 'panjis,' (Plate H, Fig. 1) which it may be conjectured are intended to prevent the soul of the victim from leaving the village, on the same principle as that on which the Angami girl pricks the soles of the feet of her murdered infant with thorns, to prevent its haunting her, only with the opposite intention.

Both the heads and limbs found in Yacham were offered to the fellow-villagers of the dead, but were refused on the ground that it was 'genna' to touch them again, though they were anxious that they should be destroyed or buried where they were by someone, more, I think, to deprive Yacham of a trophy taken from their villages, than for any sentimental reason regarding the dead.

Phoms and Changs divide their victims' heads as shown in the accompanying diagrams (Figs. 1-3), neither method being quite the same as that followed by the Konyaks. The diagrams show:—I.—Head as divided by Phoms: A. Front of skull,

to first spear. *B.* Lower jaw, to second spear or to taker of head. *C.* To third spear and others. Figs. 2 and 3.—Head as divided by Changs: *a.* Right half face, to first spear. *b.* Left half face, to cutter off of the head. *c.* Top of skull, to first dao. *d.* Lower park of hack of skull, to the next man in at the death. dao

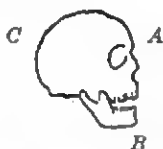


FIG. 1.



FIG. 2.



FIG. 3.

or spear. The Chang tribe do not appear either to bang up the limbs of their victims, or to fasten horns on to their skulls, which are to be seen frequently hanging up in the 'morung' strung up quite plainly one below the other.

Changs and Konyaks alike attach particular value to the heads of rich or brave men, which they regard as bringing riches or bravery to the possessor, and which they affirm to be thicker and harder to cut than those of common folk.

Heads taken in raids are buried face downwards by the Angami tribe, hung up in trees outside the village on dead bamboos by the Sema, on the *mingethung* or village head-tree by the Lhota tribe, and in 'morungs' or in private houses by the Ao, Chang, Phom and Konyak tribes.

J. H. HUTTON.

Britain: Archæology.

Stone.

Stonehenge. Notes on the Midsummer Sunrise. By E. Herbert
Stone.

68

In the course of time the position of the midsummer sunrise point, at the latitude of Stonehenge, is slowly shifting along the horizon towards the right (eastwards). This change of position is due to the gradual decrease which is taking place in the Obliquity of the Ecliptic, the rate for which is approximately known.

Hence, for any given position on the horizon within the range of possible sunrise (Stonehenge Axis for example), the Obliquity of the Ecliptic to produce midsummer sunrise at that point can be ascertained, and the corresponding approximate date for such sunrise thereby determined.

The bearing of these facts in regard to the present structure of Stonehenge is illustrated in the diagram (Fig. 1), which shows the range in the position of the midsummer sunrise from the Axis line to the Heel Stone line.

About the year 1840 B.C. the Obliquity of the Ecliptic was at the angle which would cause midsummer sunrise to take place on the line of the Axis of Stonehenge. The (apparent) path of the sun at that date is represented by the line A—A.

Owing to the gradual decrease in the Obliquity of the Ecliptic, as time goes on, the apparent slanting path of the rising sun is getting lower. It will be evident from the diagram that the effect of lowering the line A—A will be to shift the point of sunrise along the horizon to the right (eastwards).

For midsummer sunrise to take place over the peak of the Heel Stone, it will be seen that the apparent path of the sun must be lowered from A—A down to the position B—B. The decrease in Obliquity necessary to produce this change would occupy about 5100 years. Sunrise over the peak of the Heel Stone will, therefore, not take place until about 3260 A.D.—or more than a thousand years hence.

To calculate the date at which midsummer sunrise would take place at any point on the horizon (within the range of possible sunrise) it is necessary to ascertain the latitude—the azimuth—and the altitude of the horizon.

These being determined (by observation on the ground), the Obliquity of the Ecliptic which would cause midsummer sunrise to take place at that position can then be computed, and the date deduced therefrom.

As the result of observations, made in the year 1901, Sir Norman Lockyer found that for Midsummer Sunrise to take place on the line of the Axis of Stonehenge the Obliquity of the Ecliptic would be $23^{\circ} 54' 30''$.

STONEHENGE

CHANGE IN POSITION OF MIDSUMMER SUNRISE

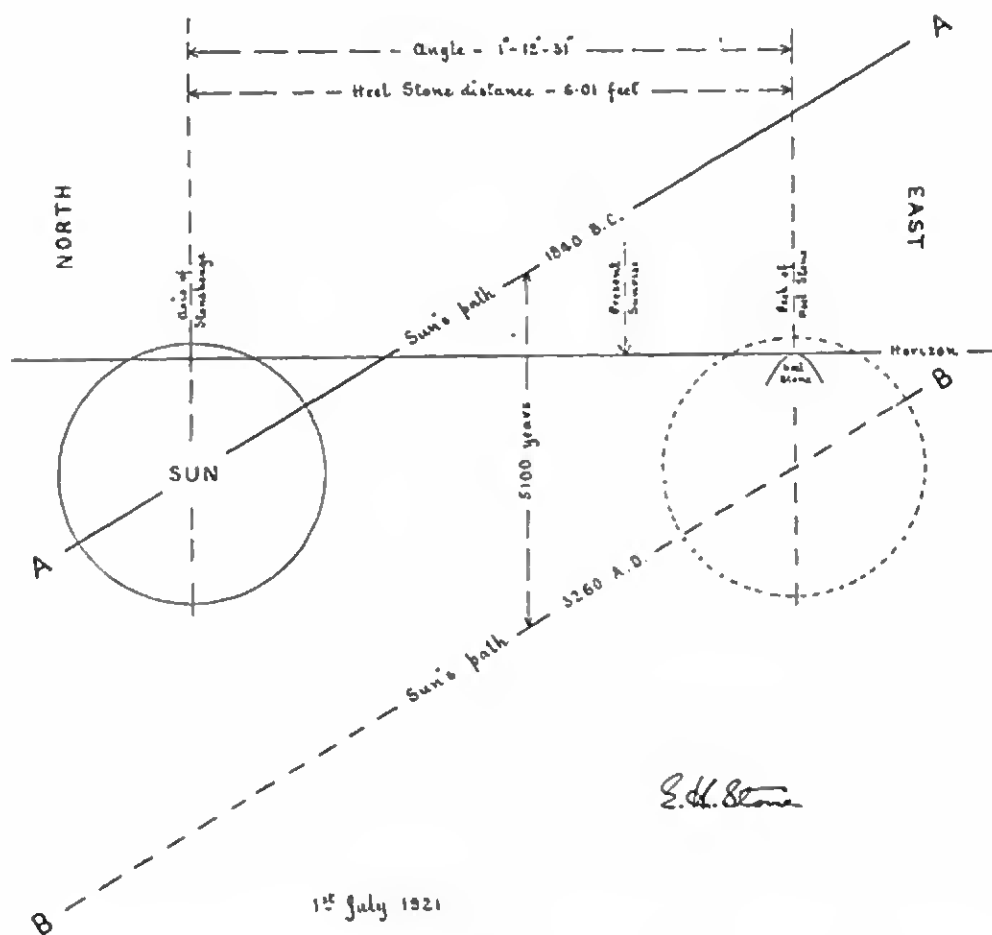


FIG. 1.

By Stockwell's Tables (which were used by Lockyer) the date corresponding to this Obliquity is given as about 1680 B.C. Stockwell's Tables were, however, published about fifty years ago (1873). Since then the rate of decrease in Obliquity has been determined with greater precision, and according to more recent computa-

STONEHENGE

OBLIQUITY OF THE ECLIPTIC --- FROM 2000 B.C. TO 3500 A.D.

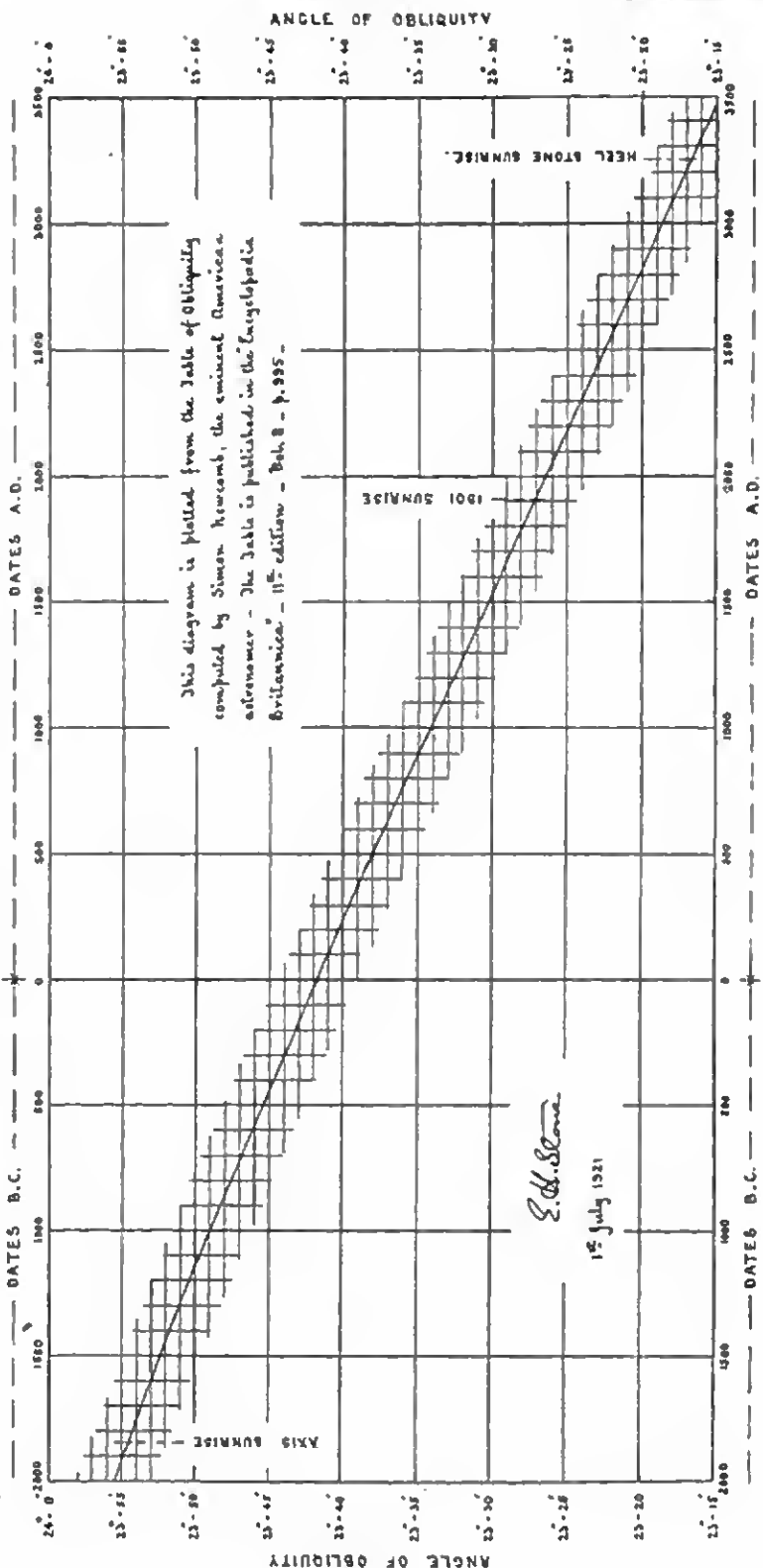


FIG. 2.

tions the date for an Obliquity of $23^{\circ} 54' 30''$ (and consequently for Stonehenge Axis Sunrise) is found to be about 1840 B.C.

STONEHENGE

MIDSUMMER SUNRISE AT DIFFERENT DATES

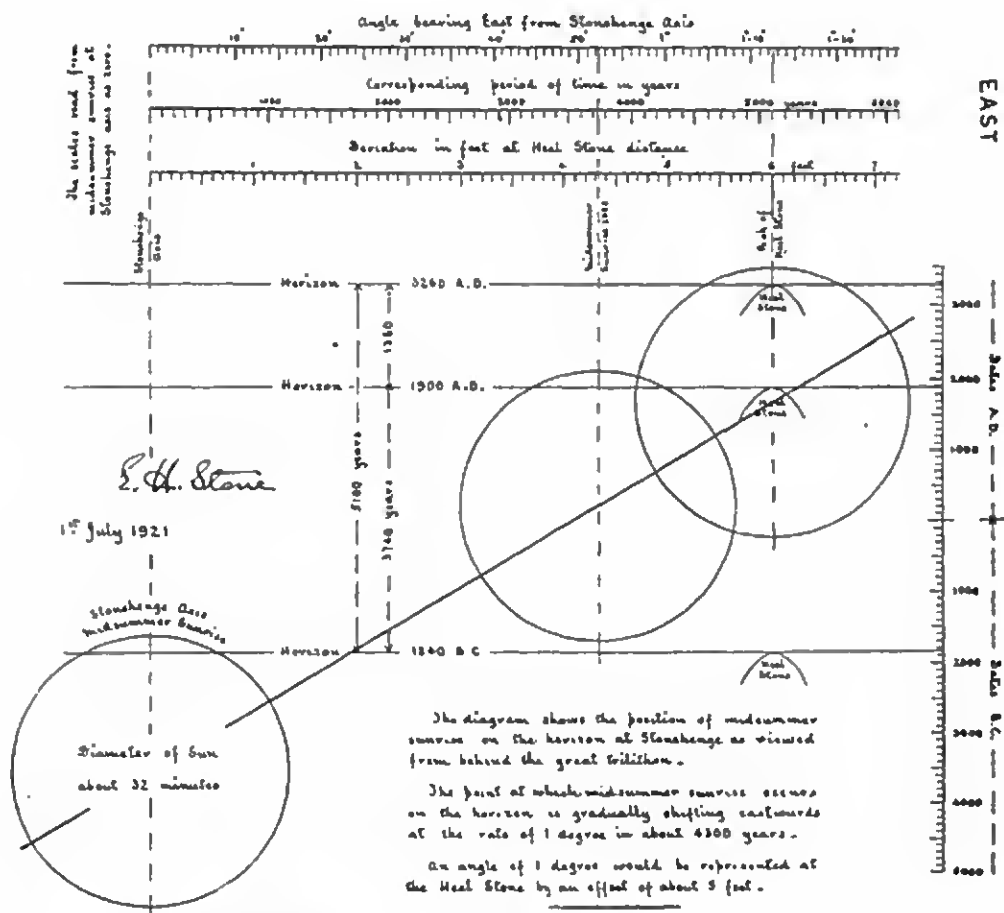


FIG. 3.

Fig. 2 exhibits, in diagram form, the results given in the Table of Obliquity computed by Simon Newcomb, the eminent American astronomer. It will be observed that the results affecting Stonehenge are as follows:—

Position of Midsummer Sunrise.	Obliquity.	Date.
Stonehenge Axis - - -	(Lockyer.) $23^{\circ} 54' 30''$	(Newcomb.) 1840 B.C.
Present day (1901) - - -	$23^{\circ} 27' 8''$	1900 A.D.
Peak of Heel Stone - - -	$23^{\circ} 16' 29''$	3260 A.D.

The general results are exhibited in the form of a diagram in Fig. 3. In Fig. 1 the change due to the decrease in the Obliquity of the Ecliptic was shown by lowering the line of the Sun's path to correspond—the horizon being unaltered. In Fig. 3, for convenience in the construction of the diagram, the Sun's path is represented by a single line, and a separate horizon is drawn to correspond with each different date.

The diagram gives at a glance a good deal of information connected with midsummer sunrise at Stonehenge, which otherwise could only be obtained by tiresome calculation.

The results here given are those corresponding with conditions as follows:—

When observed	-	-	Midsummer solstice day.
Altitude of sun	-	-	Upper limb just above horizon.
Position of observer	-	-	Behind great trilithon.

The date, 1840 B.C., given here for midsummer sunrise in line with the Axis of Stonehenge, must be regarded merely as a rough approximation. Owing to want of precision in the data Sir Norman Lockyer considered that the error (plus or minus) might amount to as much as 200 years. That is to say, the actual date is probably not earlier than 2040 B.C. and not later than 1640 B.C.*

E. HERBERT STONE.

Archæology.

Childe.

The Present State of Archæological Studies in Central Europe.

By V. Gordon Childe, B.A., B.Litt.

69

In Central Europe archæological work is now being resumed after the interruption due to the war and subsequent dislocations. In Czechoslovakia and Hungary in particular, great zeal is being displayed. But all these countries labour under heavy disabilities. The depreciation of the currencies makes the purchase of foreign books almost impossible. Even in Prague, for example, our colleagues who are endeavouring to secure an absolute dating for Bohemian prehistory by Mediterranean connections only know of the Thessalian discoveries from Tsountas's hook. The more complete and up-to-date publication of Wace and Thompson is beyond their means. Similarly travel, comparatively cheap to the possessor of sterling or dollars, is almost impossible in crowns beyond the borders of the land of issue.

Moreover not only has the war interrupted the recruitment of archæological students, but death has robbed Central Europe of two of her outstanding investigators—Professor Hoernes and Dr. Palliardi. The loss of the latter is especially grave since the famous collection of Moravian antiquities—including the renowned painted pottery from Znaim (Znojmo)—was in his private possession and, in a way, he held the key to its interpretation very much as Sir Arthur Evans does with that of Knossos. There is indeed some doubt as to where this collection is now housed. I understand that it has been bequeathed to the museum of Brünn (Brno), but it would obviously be to the advantage of the archæological world if it could find a resting-place either at Vienna or Prague.

But in spite of these grave obstacles, archæological work is being carried on. The National Museum at Prague possesses already a unique collection of Bohemian prehistorics. The development of the ceramic and metal types is admirably displayed in the arrangement of the finds, as is the interaction of the northern and southern elements which found in Bohemia a meeting-place. The collection has recently been enriched by the finds of M. Hellich at Patek (late neolithic), of Dr. Stocky at Velka Ves (chalcolithic burials in the crouching position), and Dr. Schráníl at Hloupětín near Prague. On the other hand, the translations of all the labels into Czech—even an international word like Aunjetitzer has now become Únětická—offers a serious

* A note on Mr. Stone's communication by Admiral T. Boyle Somerville will appear in a forthcoming issue of MAN.

obstacle to the visiting student, which not even the unfailing kindness of the directors can entirely overcome.

In addition, several important studies have recently been published, among which I may mention Dr. Stocky's "Studie o čiskem neolitbu," for the neolithic period, and Dr. Schráníl's work on the bronze age (Studie o vzniku kultury bronzové v čechách). The latter is accompanied by a full résumé in French and is particularly devoted to an attempt to date the Unétice culture by the occurrence of southern pin forms. The pin with spiral head called "Cypriote," like that from Naquada (Petrie, "Naquada and Ballas," lxx., 19, 48) occurs in a tomb bordering on the bronze age at Velka Ves; while a pin with perforated neck and a round head, more developed than the Italian type, recurs at Unétice itself. Hence Dr. Schráníl dates the earlier stage of that culture between 1700 and 1500 B.C.; the later, down to 1200.

Director Bela and Dr. Hillebrandt of the Hungarian National Museum at Buda Pest have just completed a most fruitful excavation at Bodrogkeresztin near Toka on the Theiss. The most striking find was a graveyard of the Lengyel type with contracted skeletons. An unusual feature here came to light: the burial of two corpses—generally the man and his wife—in the same grave. The skulls were all markedly dolichocephalic. The cemetery is dated to the extreme end of the stone age by the discovery in one grave of a bronze dagger. The pottery, mainly of the Lengyel type and unpainted, also presented remarkable features, while obsidian, apparently of local origin, was plentiful. The material, including some complete graves, has been transported to Buda Pest and we must await its publication with lively interest.

Unfortunately the prehistoric collection at Buda Pest is excessively crowded—in fact most of the celts, sherds and bronzes are hurried in cupboards, and prehistorians have to rely on the boundless courtesy of the directors to obtain a view of these treasures. The Roman collection has, however, recently been rearranged in spacious halls, and a similar readjustment of the splendid mediæval collection is now in progress.

The position of the Vienna Museums is, on the other hand, very precarious. The Natural History Museum there undoubtedly contains the most representative collection of prehistoric objects to be found in Central Europe. But the bankruptcy of the State now paralyses the activity of the Museum. The Government grant in the present currency is exhausted in a couple of weeks. Wages are so high relatively that regular excavations are out of the question and most archaeological journals have had to suspend publication. The Anthropological Society indeed still issues its Mittheilungen, but so far they have not been able fully to revive intercourse or negotiate exchanges with Western countries and so remain largely cut off—to our loss as much as their own. The Museum itself is virtually driven to subsist on the sale of photographs and reproductions. The models made of vases from Schippenitz or Laihach Moor, for instance, are truly admirable, such that one might well mistake the copy for the original. For demonstration purposes a set of such reproductions, where originals are not available, should prove invaluable.

And, in spite of all, the Museum still opens its doors gratuitously to the public three days a week and is constantly thronged with visitors. Last year a new and exhaustive guide was published, with several useful illustrations.

The heroic efforts of the directors to preserve these collections intact can only be counted a noble service to science. The dissipation of their contents among a dozen or so smaller museums would only impose further journeyings upon the student, and in the end would probably deprive him of the opportunity of viewing as a whole and comparing the unitary sequences now displayed. The possible intervention of private collectors opens up a yet more horrible vista.

V. GORDON CHILDE.

Obituary.

Ray.

S. Percy Smith, born 1840; died 1922. *By S. H. Ray, M.A.***70**

The death is announced of S. Percy Smith, the President of the Polynesian Society and Editor of the "Journal of the Polynesian Society," which took place at Matai-Moana, New Plymouth, on the 19th April, 1922, at the age of 82. Stephenson Percy Smith was born at Beccles, Suffolk, in 1840, of an old East Anglian family, and went to New Zealand with his parents in 1850. Five years later he became a cadet in the Survey Department at New Plymouth, and was appointed an assistant surveyor in Taranaki in 1857. During the survey of the hush lands surrounding New Plymouth, Mr. Smith was constantly in contact with Maori helpers, and began to acquire a knowledge of the Maori language, which was so persistently followed up that he came to be regarded as one of the most accomplished Maori scholars in the Dominion.

In the course of his duties Mr. Smith carried out several explorations and surveys in North Island. In 1868 he carried out the triangulation and survey of the Chatham Islands and between 1870 and 1876 was engaged upon the major triangulation of North Island. In 1882 he became Assistant-Surveyor-General, and after the eruption of Tarawera in 1886 made, with Messrs. E. C. Gold-Smith and H. D. Hazzard, a topographical survey of the country affected by the upheaval. In 1887 he took possession of the Kermadec Group for the New Zealand Government. In 1897 he visited the principal island groups of the Pacific in an endeavour to elucidate the origin of Polynesian migrations. His results were published in his book on "Hawaiki, the original Home of the Maori."

After his retirement in 1900 from the Government service, Mr. Smith went, in 1902, as Resident to Niue, Savage Island, to institute laws and government for that island. On his return he published a valuable account of the island and people and, in conjunction with Mr. E. Tregear, a vocabulary of the language.

In the field of Polynesian ethnology Mr. Smith was indefatigable. He was mainly instrumental in founding the Polynesian Society at Wellington in 1892, and undertook the duties of secretary and treasurer, as well as that of editor of the Society's Journal. He held the latter position from the foundation of the Society until his death, and was also President of the Society from 1904 onwards. During his editorship, thirty volumes of the Journal were published, and, mainly owing to his enthusiasm, very valuable records and documents relating to Polynesia have been preserved.

Mr. Smith was the author of numerous books. The principal of those dealing with ethnology are: "The Peopling of the North (N.Z.)," "Niue Island and its People" (1903), "Hawaiki or the Whence of the Maori" (four editions), "Maori History of the Taranaki Coast," "The Lore of the Whare-wananga," "History and Traditions of Rarotonga." Besides these he contributed very many papers to the Transactions of the New Zealand Institute, the Journal of the Polynesian Society, Reports of the Australasian Association for the Advancement of Science, and other journals.

Mr. Smith was a Fellow of the Royal Geographical Society from 1880; Fellow of the New Zealand Institute; Hector Medallist for Polynesian Ethnology, 1919; Local Correspondent of the Royal Anthropological Institute, 1904, and a Corresponding Member of the Società d'Antropologia d'Italia, of the Royal Geographical Society of Australia, and the Hawaiian Historical Society. He was a honorary member of other societies.

An obituary of Mr. Smith, written by Mr. W. H. Skinner, appeared in the "Budget and Taranaki Weekly Herald," from which the foregoing notes have been extracted.

S. H. RAY.

Social Anthropology.

Temple.

A Revolutionary Theory of Social Anthropology. By Sir Richard C. Temple, Bt., C.B., C.I.E.

71

A remarkable hook on the Andaman Islanders, hy way of a study in social anthropology, has just been brought out hy Mr. A. R. Brown.* It is divided into fairly equal halves, and consists of observations on the Andamanese made on the spot, and of the interpretation thereof. The first part is marred, firstly, by too much stress being laid on the value of the author's own observations and too little on that of his predecessors, especially of so meticulously accurate a recorder as Mr. E. H. Man, who had exceptional chances of observing, spread over a long series of years. Indeed, Mr. Brown seems on occasion to go out of his way to disagree with the results of his predecessors, sometimes on quite minor points, even when they have been, like himself, students of experience, hut with better opportunities for observation. Secondly, the hook is marred by the adoption of an Eastern European system of transcription for the languages, in supersession of the now long established system devised by so very competent an authority on the recording of human speech on paper as the late Mr. A. J. Ellis. This has had the result of giving words and terms familiar to students of the Andamanese new and puzzling forms, and I may say as one accustomed to both systems, that Mr. Ellis's is far the more accurate and useful of the two, and much the most intelligible to English readers.

However this may be, the valuable part of the hook to this Institute is Mr. Brown's interpretation of his observations. It is in fact an exposition of a new theory of social anthropology, which is explained and examined at great length from many points of view. The hook, therefore, is worthy of the most serious consideration hy anthropologists.

Mr. Brown's interpretation of Andamanese customs and beliefs, both ceremonial and those connected with myths and legends, aims at supplying "the most urgent need of ethnology at the present time," viz., "a series of investigations in which the observation and the analysis and interpretation of the institutions of some one primitive people are carried on together hy the ethnologist working in the field." Passing on to the practice of this general principle, Mr. Brown observes: "The sound rule of method is to formulate clearly and explicitly the working hypothesis on which the interpretation is based." He then discusses the hypotheses previously in vogue: e.g., Tylor's and Frazer's views based on the supposition that the beliefs of savage peoples are due "to attempts on the part of primitive man to explain to himself the phenomena of life and nature." Max Müller's explanation of "the beliefs of primitive man as being due to emotions of surprise and terror." Marrett's view that they are due "to awe and wonder." McDougall's method of using Frazer's and Max Müller's hypotheses "together, one being used to explain some primitive beliefs and the other to explain others." After these statements Mr. Brown is himself again, for these authorities are mentioned "not in order to criticise them, hut in order to contrast them with the hypothesis to be formulated" in his hook.

All this is to say that we are now confronted with a new and independent theory, which is explained and applied in detail for some 180 pages. This being so, it is worth while examining it, so far as one can in the small space available in a scientific journal. Let us have, in the first place, Mr. Brown's own statement of the new hypothesis (pp. 233-4): "(1) A society depends for its existence on the presence in "the minds of its members of a certain system of sentiments (organised systems of "emotional tendencies centred about some object) hy which the conduct of the "individual is regulated in conformity with the needs of the society. (2) Every

* "The Andaman Islanders, a Study in Social Anthropology," by A. R. Brown, M.A., pp. x & 504. Cambridge University Press, 1922.

"feature of the social system itself and every event or object that in any way affects the well-being or cohesion of the society becomes an object of this system of sentiments. (3) In human society the sentiments in question are not innate, but are developed in the individual by the action of the society upon him. (4) The ceremonial customs of a society are a means by which the sentiments in question are given collective expression on appropriate occasions. (5) The ceremonial (i.e., collective) expression of any sentiment serves both to maintain it at the requisite degree of intensity in the mind of the individual and to transmit it from one generation to another. Without such expression the sentiments involved could not exist."

Applying the hypothesis to the ceremonial aspects of customs and beliefs, Mr. Brown briefly sums up the position thus (p. 234): "The social function of the ceremonial customs of the Andaman Islanders is to maintain and transmit from one generation to another the emotional disposition on which the society (as it is constituted) depends for its existence." He then tells us (p. 234) that "an attempt will be made to show that there is a correspondence between the customs and beliefs of the Andamanese and a certain system of social sentiments, and that there is also a correspondence between these sentiments and the manner in which the society is constituted." I am deliberately quoting Mr. Brown's *ipsissima verba* wherever necessary, as it is only fair to him to give his statements concerning his theory *verbatim*.

Having thus stated his theory and explained his method of applying it, Mr. Brown draws up a few rules of method for himself, the last of which is as subversive of old and still current procedure and ideas as it well can be. These rules are (pp. 234-5):—(1) In explaining any given custom it is necessary to take into account the explanation given by the natives themselves. Although these explanations are not of the same kind as the scientific explanations that are the objects of our search, yet they are of great importance as data. Like the civilised man of Western Europe, the savage of the Andamans seeks to rationalise his behaviour." (2) The assumption is made that when the same or a similar custom is practised on different occasions, it has the same or a similar meaning in all of them." (3) It is assumed that when different customs are practised together on one and the same occasion there is a common element in the customs. This rule is the inverse of the last. (4) Any comparison of the Andamanese customs with similar customs of other races are avoided as being misleading as well as unnecessary."

We now know where we are, and it is obvious that we are confronted with an hypothesis very different from any on which we have, as a rule, been hitherto accustomed to work. It is obvious also that this novel hypothesis is worth careful examination. Let us, therefore, follow Mr. Brown a little further. He begins (p. 235) by considering the Andamanese marriage ceremony in the light of the new theory "as one of the simplest and most easily understood." Mr. Brown observes that "the main feature of it is that the bride and bridegroom are required publicly to embrace each other," and these are the beads of the explanation of this fact (p. 236): "Everywhere in human life the embrace is employed as an expression of such feelings as love, affection, friendship, i.e., of feelings of attachment between persons. There is no need to enquire into the psycho-physical basis of this expression. . . . It is sufficient for our purpose to satisfy ourselves that the embrace in all its forms does always express feelings of one genuine kind."

Mr. Brown then carries his explanation further (pp. 236-7): "The meaning of the marriage ceremony is readily seen. By marriage the man and woman are brought into a special and intimate relation to one another: they are, as we say, united. The social union is symbolised or expressed by the physical union of the embrace." In this way "the rite has two aspects, according as we regard it

" from the standpoint of the witnesses or from that of the couple themselves. The witnesses, by their presence, give their sanction to the union that is then enacted before them. The man who conducts the ceremony is merely the active representative of the community : in what he does or says he acts as a deputy and not as a private individual. Thus the ceremony serves to make it clear that the marriage is a matter that concerns not only those who are entering into it, but the whole community, and its occasional performance serves to keep alive this sentiment with regard to marriage in general. The existence of the sentiment is shown in the reproach felt and often expressed at an irregular marriage, in which the couple unite without ceremony : such a union showing a contemptuous or careless thrusting aside of an important social principle."

Having thus explained the ceremony and its meaning, Mr. Brown goes on to make the pertinent observation on the wedding gifts (p. 237) that they "are bestowed upon the young couple as an expression of the general good-will towards them. The giving of presents is a common method of expressing friendship in the Andamans," and (pp. 237-8) "it would be an insult to refuse a present offered, for to do so would be equivalent to rejecting the good-will it represents. At marriages the giving is one-sided, no return being expected, for it is an expression, not of personal friendship on the part of the givers, but of general social good-will and approval. It is for this reason that it is the duty of everybody who is present to make some gift to the newly-married pair."

Here one can almost hear the man in the street, if he could be got to read this passage, saying :—"How jolly like other people!" and the argument confirms an observation of my own made long ago :—"A savage is, after all, just an ordinary man." Not only do I heartily agree with Mr. Brown on this matter, but I based (also long ago in 1883) a *Theory of Universal Grammar* on the observation that the thoughts of all mankind and their expression were but the phenomena of the working of one class of mind—the human. Therefore all the varieties of speech must be governed by one set of general natural laws.

The marriage ceremony leads Mr. Brown to the peace-making ceremony (dance) of the North Andaman (p. 238). The symbolism of this dance, he says, is "at once obvious to a witness, though not perhaps quite so obvious from the description" on paper. "The dancers are divided into two parties. The actions of the one party throughout are expressions of their aggressive feelings towards each other." But "on the other side what is expressed may be described as complete passivity"; the dancers, as it were, "humbling themselves before the just wrath of their enemies, expiate their wrongs. Anger appeased dies down; wrongs expiated are forgiven and forgotten; the enmity is at an end." The point of the ceremony for the present purpose is clearly that socially it reflects the collective expression of collective tribal emotion.

These two ceremonies—marriage and peace-making—lead to a consideration of the most commonly remarked Andamanese custom of all—that of ceremonial weeping. An Andamanese can always produce tears to order, as it were. Mr. Brown gives (p. 239) the seven principal occasions therefor : (1) at meeting after parting, (2) at peacemaking, (3) at the end of mourning, (4) at death, (5) at the recovery of the bones of the dead from graves, (6) at marriages, (7) at initiation ceremonies. He then explains (p. 239) that "not in any one of the above-mentioned instances is the weeping simply a spontaneous expression of feeling. It is always a rite, the proper performance of which is demanded by custom." After going into details at considerable length Mr. Brown arrives at the conclusion (p. 245) that the weeping rite is "the affirmation of a bond of social solidarity between those taking part in it, and as producing in them a realisation of that bond by arousing the sentiment of attachment." And then he brings out four points of general

importance in relation to all these ceremonies,—marriage, peacemaking, weeping,—(pp. 245-6):—“(1) in every instance the ceremony is the expression of an affective state of mind shared by two or more parties.” . . . “(2) The ceremonies are not spontaneous expressions of feeling: they are all customary actions to which the sentiment of obligation attaches, which it is the duty of persons to perform on certain definite occasions.” . . . “(3) In every instance the ceremony is to be explained by reference to fundamental laws regulating the affective life of human beings.” . . . “(4) Each of the ceremonies serves to renew or to modify in the minds of those taking part in it some one or more of the social sentiments.”

Mr. Brown next examines the meaning and functions of the dance and has some pertinent notes thereon. He begins by remarking (p. 247) that “the ordinary Andaman dance may be looked on as a form of play,” and then he says: “If an Andaman Islander is asked why he dances he gives an answer that amounts to saying that he does so because he enjoys it. Dancing is, therefore, in general a means of enjoyment.” In Mr. Brown’s eyes “the Andaman song is an accompaniment of the dance” (p. 247), and is of quite secondary importance. He winds up his remarks on this subject by saying (p. 252): “the dance produces a condition in which the unity, harmony and concord of the community are at a maximum, and in which they are intensely felt by every member. It is to produce this condition, I would maintain, that is the primary social function of the dance.” But on p. 249 in a footnote he remarks that “the psychology of dancing offers a wide field for study that has as yet, so far as I know, been barely touched.” This I present to Sir William Ridgeway for contemplation.

A consideration of the dance leads to the much more complicated question of the dance-costumes, including ornamenting and painting the body, and their symbolism. This subject Mr. Brown tackles boldly and his final remark thereon is characteristic (p. 276): “Of course it is probable that the Andamanese custom of painting the body after eating, like our own grace before and after meat, with which it is parallel, tends to become a formality accompanied by little real feeling, but it can be shown, I believe, that such customs do possess a real value—a real psychological function—in keeping alive ideas and sentiments that will on occasion play an important part in influencing conduct.” Thus (p. 275) each of these ceremonies is an action required by custom, the performance of which on appropriate occasions serves to keep alive in the mind of the individual a certain system of sentiments necessary for the regulation of conduct in conformity to the needs of the society as they have been handed down by tradition.” . . . It serves “to make the individual feel the solidarity and unity of the community: all share in the peril and the common danger, and each man sees on his neighbour [in the Andamans] the clay with which he himself is daubed.”

Mr. Brown then passes on to the social values of food and its getting and consumption, which last is mixed up with initiation ceremonies. A consideration of these leads him to remark (p. 284) that the “Andamanese customs relating to food are all of them different modes of expressing the social value of foods.” He then dives (pp. 284-5) into the vexed question of “the nature of the dangers that are supposed to accrue from the eating of food if due precautions are not taken. One statement of the natives is that the danger they fear is sickness. Sickness of all kinds is believed by the Andamanese to be caused by . . . the spirits of the dead:” a remark that leads naturally to a consideration of the Andaman notions of spirits, as evidenced in the custom relating to deaths and burials.

Upon this follows a complicated and instructive argument covering many discursive subjects of great interest, which is worth careful study, but is far too long for more than a mere mention here. The main point of it goes back to the statement

that customs connected with these subjects (p. 297) are "ritual actions performed under a sense of obligation and strictly regulated by tradition. They are means by which the society acts upon its members, compelling them to feel emotions appropriate to the occasion."

In bringing his argument as to ceremonial customs and beliefs to a conclusion, Mr. Brown argues (p. 324) that it is "evident that the ceremonial customs are the means by which the society acts upon its individual members and keeps alive in their minds a certain system of sentiments. Without the ceremonial those sentiments would not exist, and without them the social organisation in its actual form could not exist. There is great difficulty, however, in finding a suitable method of describing these sentiments. In attempting to put into precise words the vague feelings of the Andaman Islander there is always the danger that we may attribute to him conceptions that he does not possess. For he is not himself capable of thinking about his own sentiments." The moral of which consideration is that in diagnosing them for him or similar persons doctors are bound to differ—much more so are students bound to differ: a point that Mr. Brown does not always take sufficiently into his purview.

The thought that must arise in every mind on a perusal of Mr. Brown's pages is that here we have a direct challenge to long accepted ideas as to the correct method of interpreting ceremonial customs and beliefs, in pursuance of which very many books have been written by many enquirers, involving an enormous quantity of labour and thought for the best part of a century. This is, therefore, indeed a revolutionary book, and the skill with which the argument is conducted deserves the fullest consideration of this Institute.

Mr. Brown follows up his argument as to ceremonial by another, extending over some 75 pages, on myths and legends, which cover of course religion, worked out resolutely on the same lines, whereby he seeks (p. 331) "to prove that the tales that seem merely the products of a somewhat childish fancy are very far indeed from being merely fanciful and are the means by which the Andamanese express and systematise their fundamental notions of life and nature and the sentiments attaching to those notions." Here again I find myself in entire agreement with Mr. Brown, for I have long preached that no custom or belief is in itself silly, but has a history somewhere worth investigating. Mr. Brown's general view here is that (p. 377) "the legends have for their function to express the social values of different objects,—to express in general the system of social values that is characteristic of the Andaman social organisation." And in this connection he acutely remarks (p. 379) that "the Andaman Islander has no interest in nature save in so far as it directly affects social life."

Finally, on the subject of religion Mr. Brown is worth quoting in full (p. 405). "When we use the term 'religion' we inevitably think first of what we understand by that term in civilised society. It is not possible, I believe, to give an exact definition which shall retain all the connotations of the word as commonly used and which shall at the same time help us in the study of the customs of undeveloped societies. The definition of religion that seems to me on the whole most satisfactory is that it consists of (1) a belief in a great moral force or power (whether personal or not) existing in nature, and (2) an organised relation between man and this Higher Power. If this definition be accepted it is clear that the Andamanese have religious beliefs and customs. They do believe in a moral power regulating the universe, and they have organised their relations to that power by means of some of their simple ceremonies. Yet it does not seem possible to draw a sharp dividing line between those beliefs and customs that properly deserve to be called religious and others which do not deserve that adjective. It is not possible, in the Andamans, to separate a definite entity which we call religion

" from things that may more appropriately be regarded as art, morality, play, or " social ceremonial." Here Mr. Brown, as I take it, is dealing with the ceremonial side of religion, and then he proceeds apparently to view it from the philosophic side, as to which it is obvious that the ideas of an Andamanese would be of the very haziest. The distinction is important to my mind, and I have long argued that historically the religious customs and beliefs of a people based on the philosophy it has learnt have often an origin totally distinct from that of the customs and beliefs exhibited in its religious ceremonies.

Be this as it may, Mr. Brown goes on (pp. 405-6): " Nevertheless the purpose of these two chapters [ceremonies, and myths and legends] has been to explain " the nature and function of Andamanese religion. Amongst the fundamental " conditions that must be fulfilled if human beings are to live together in society is " the existence of this thing that we call religion, the belief in a great Unseen Power, " between which and ourselves it must ever be the great concern of life to establish " and maintain harmony. The Andaman Islander with his somewhat childish " faith, the Australian black-fellow decorated with paint and feathers impersonating " his totemic ancestor, the Polynesian sacrificing human victims on the *maral* of " his god, the Buddhist following the Holy Eight-staged Path, are all following " in however different ways the same eternal quest." By which remarks Mr. Brown shows himself, however unwittingly, to be a member of a human society with a religious history of its own.

I have thus presented Mr. Brown's theory at some length, and it must now be clear to the reader that if it proves to be generally acceptable, the method of studying primitive peoples will be revolutionised. Hence the space I have devoted to it needs no apology.

As to how long it may take to bring about a revolution two little personal stories in connection with the study of the Andamanese may be to the point. Just 40 years ago (1882) Mr. A. J. Ellis wrote to me, *a propos* the Andaman and Nicobar languages, urging the necessity of devising a new method of recording the grammar of " savage languages," which should not oblige observers to use the modern European system and terminology based on Latin Grammar, as so much of them was inapplicable. I followed up the idea and produced a "Theory of Universal Grammar," which was subsequently expounded in all sorts of places at every opportunity, including a British Association Meeting at Cambridge. It was often generally agreed to, and also applied by experts, to their minds successfully, to a great variety of tongues, including Latin itself. It was revised and revised again under an altered title, and applied by myself in detail to the very widely different languages of the Andamans and Nicobars. And yet it has remained what it was originally: just a theory unapplied generally. Quite lately I found myself on an authoritative Committee with instructions to bring the Grammar of Indian "Aryan" languages into line with that of the European languages of the same order, and I had meekly to agree, in the general interests of the ordinary teacher and his pupils, to the adoption of a modification of the old Latin terminology and system. Vested interests, even in knowledge, die hard.

The other story is that nine years ago (1913) I propounded a scheme for extending the teaching of Mr. Brown's own subject—applied cultural anthropology. Many were enthusiastic for its application and as many against it. Unfortunately it trod on toes, and, though the proposal was vigorously followed up on every opportunity arising and found lively adherents, its opponents have so far proved too strong. Vested interests in learning and knowledge are as strong as those in commerce, religion, and any other such human subject one might mention. It is human nature, and shall we say it might be instructive if some one will use Mr. Brown's method to examine the point?

Yet another instance of a theory, worked out at great length by many intelligent workers collecting in co-operation an enormous mass of material on the spot, and yet failing to become generally known and utilised by searchers, is Sir James Campbell's "Spirit Basis of Belief and Custom," as the outcome of information gathered a quarter of a century and more ago in connection with the Census of India of 1891 and the monumental 26 volumes of the *Bombay Gazetteer*, of which he was the editor and guide. Perhaps Mr. Brown's "Social Basis of Belief and Custom" will have better luck. He has a chance, as the general idea is "in the air": vide Mr. A. M. Hocart's "Common Sense of Myth" in the *American Anthropologist*, N.S., Vol. 18, p. 307 (1916) and his "Myths in the Making" in *Folklore*, March, 1922, p. 57.

R. C. TEMPLE.

REVIEWS.

Europe, Western: Religion.

Murray: Winstanley.

The Witch-Cult in Western Europe: A Study in Anthropology. By Margaret Alice Murray. Oxford: Clarendon Press, 1921. Pp. 303. Price 16s. net.

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Two Trials for Witchcraft. By Miss M. A. Murray. Reprinted from the Proceedings of the Society of Antiquaries of Scotland. Vol. VIII., Fifth Series. Session 1921-22. Pp. 46-60.

Macbeth, King Lear and Contemporary History. By Lilian Winstanley. Cambridge University Press. 1922. Pp. 228. Price 15s. net.

In her study of witchcraft, Miss Murray has confined herself to ceremonial; she has not dealt with "operative magic," the spells, charms, and the like employed by witches. Taking the accounts given by the witches themselves at their trials, she deduces from them the character of the god, of the admission ceremonies and of the assemblies, and describes the rites and the organisation, with its inner circle of "covens" of thirteen individuals or multiples of thirteen, by which the cult was carried on. Her attention is directed chiefly to the cult as it existed in these islands; but for the purposes of elucidation and amplification she quotes freely from the voluminous records of French trials.

As a result of her investigations Miss Murray arrives at the conclusion that the witch-cult was an organised religion, which she would call the Dianic Cult, and that it was a survival of a primitive religion, more or less uniform over the whole of Western Europe, which was superseded by Christianity, but only slowly and at a much later date than is generally believed. The chief element in this religion was the worship of the God incarnate who appeared to his votaries now as a man, now as an animal, and was confused with the devil by Christians. The central feature of the ceremonial was a fertility rite performed at periodical assemblies, and particularly at the quarterly festivals of a pre-solstitial year. That such a primitive cult may have survived does not involve too great an assumption. As was pointed out by Sir Walter Scott, the wholesale conversions of tribes and peoples to Christianity was probably for long nothing more than an empty conformity with the conversion of their chiefs. Miss Murray's analysis of the Christian names of the witches shows that none bore Saxon or Scandinavian names, and lends support to the view that they belonged to families or groups whose traditions extended in unbroken line to pre-Christian times. Further, the confessions of the witches themselves showed that their cult was not a furtive association merely for wrong-doing, but was a "joyous religion," which brought its votaries happiness and for which they were prepared to suffer martyrdom. Originally beneficial and intended to promote fertility, it was only in the popular view that the cult was malevolent, at least until it degenerated into the form in which it appears in later times, when the witch's hand was against every man.

Miss Murray has made out a strong case. It might perhaps have been made stronger had she dealt a little more fully with the historical evidence. She does, it is true, discuss in some detail the cases of Joan of Arc and her comrade in arms, Gilles de Rais, who was executed as a witch in 1440. The evidence for a powerful organisation behind Joan of Arc, which Miss Murray postulates as an explanation of the mystery surrounding her fate, would be strengthened by a reference to the number of executions for witchcraft, which ran into many thousands. The issue, however, is to some extent obscured by the charge of heresy. Were the "unlawful" assemblies, upon which accusations were based, genuine witches' sabbaths, or merely assemblies of those whose views were unorthodox, but upon whom the accusation of witchcraft was gratuitously fastened? The persecution of the Waldenses is a case in point. It was not, however, until the beginning of the XIVth century when John XXII. published his Bull that the Church branded witchcraft, hitherto regarded as a sin and a backsliding, as a heresy punishable by death; and it was not until the middle of the fifteenth century, some thirty years after Joan's death, that sporadic prosecutions of individuals were superseded by wholesale persecution and the Inquisition was instituted.

Miss Murray's book raises many points which it would be tempting to discuss did space allow. As a whole it is one of the most interesting pieces of work that has appeared for some time. The full reports of the trials of Alexander Hamilton and Lillias Adie which she has contributed to the Proceedings of the Society of Antiquaries of Scotland form an interesting pendant to her book.

Miss Winstanley's second study of the relation of Shakespearian plays to contemporary history is of interest to anthropologists in the use which she makes of the scene with the witches in *Macbeth*. She maintains that this scene was introduced as a reference to the trial of the North Berwick witches who were accused of conspiracy against King James I., while she regards Macbeth himself as a composite picture of the elder and younger Bothwell, the latter of whom was accused of being in league with the North Berwick witches, and, later in his life, while resident at Naples, was notoriously reputed to be a witch-master. Miss Murray, indeed, regards him as the leader or incarnate deity of the North Berwick cult. Miss Winstanley quotes parallels from the play and from the evidence at the trial which would be more convincing if they did not relate to more or less common attributes of all witches. The allusions in the play, however, must inevitably have had a topical interest.

E. N. F.

Murman Coast: Ethnography.

Homén.

East Carelia and Kola Lapmark. Described by Finnish scientists and philologists. Edited by Theodor Homén. London: Longmans, Green & Co. 1921. Pp. viii + 264, 61 illustrations and 13 folding maps. Price 21s. net. **73**

This is an admirable summary, by a group of Finnish scientists, of all available information about the provinces of East Carelia and Kola Lapmark. The subjects dealt with are the physical features of the area, and the history, language, social conditions, economic life and intercourse of the population. It is, in fact, a general introduction to the anthropology of the region. The authors deal solely with present conditions, except for a brief sketch of the political history of the district. Little information is given in illustration of the material and social conditions of the people in past times, but the view is taken that the Lapps had once occupied central Finland, where they were responsible for what has been termed the Arctic type of Stone Age culture.

H. J. E. P.



BURIALS OF THE FIRST DYNASTY.

ORIGINAL ARTICLES.

With Plate I—J.

Egypt: Archæology.

Petrie.

Burials of the First Dynasty. *By W. M. Flinders Petrie, LL.D.,* **74**
F.R.S.

During the past winter the British School in Egypt was excavating a series of some five hundred graves of the courtiers of the earliest age of history—according to the Egyptians 5400 B.C. The Royal Tombs at Abydos, which I excavated over twenty years ago, had around each of them some lines of graves in which the courtiers were buried; and buried all at once, as the brickwork was yet soft and had slipped down over the burial in many cases. Now we have found, a mile away from that, three great squares of graves, about 250 to 400 feet along the sides, sometimes a single line, sometimes double. A trench about five feet deep was dug in the sand-wash of the plain, lined with brickwork and subdivided by cross walls into graves about five feet long and four wide, in which the body was placed contracted.

Though many of these bodies appear to have been buried in a coffin, with vases of alabaster and pottery, and tools of copper and flint, yet there were several which seemed to have been conscious when buried. Some with a knee raised, others with arms stretched out as if lifting the body. The clearest instance is illustrated here. The heels had evidently been bound up to the hips, to prevent resistance; the body was thrown into the grave, upon a rising boulder, chest downward; the head was twisted round, at right angles to the spine both backwards and sideways. The forearm was raised in front of the face. That this appearance was not due to decapitation, was proved by lifting the skull, which was in articulation to the atlas vertebra, and tracing the vertebræ continuously down to the straight line of the back; then on replacing the skull in articulation it stood exactly as when found. There were no broken or wounded bones observed in any of the skeletons; it seems therefore as if the people, men and women, had been sand-bagged, and then buried while stunned—a most painless kind of death. The frequent examples of property with kings' names buried here shows that these people belonged to the royal household.

The custom of killing off the court at the king's death was a wholesome preservative of orderly government. Everyone around the king knew that he could not survive the king, and therefore might as well sacrifice his life to preserve that of the king from violence. It was the ancient custom in the Sudan, where the viceroy in the twelfth dynasty was buried there with about three hundred Nubians, lying scattered about in the passages which led to the tomb. In the first dynasty there are hundreds of burials to each king at the beginning, and dwindling to dozens at the end of the dynasty. Evidently the custom was waning, and seems to have disappeared later. About eighty skulls were obtained, and were all dipped in melted paraffin and brought to London. A few complete skeletons were also brought away; and all the long bones and skulls were measured.

The flint knives were all worked by scaling, and not by ripple-flaking, which belongs to the second prehistoric age. There were equal numbers of two types: one narrow and thick, used for scraping, and usually worn down, as the first example here, which shows the original width at the handle; the other type wide and thin, as the second example, used for slicing. These are of unusual size, the narrow knives being over a foot long. All have the notch handle, except one. This notch began in the second reign of the first dynasty. Copper tools were as usual as flint and some bear the names of the third and fourth kings, Zer and Zet. They are massive and well-formed, with inscriptions cleanly cut. Ivory carving of lions, for

gaming pieces, and of labels for necklaces, bearing the kings' names, were also found; as well as sets of ivory rods and magnesite balls used in games.

Why these hundreds of royal servants should have been buried in large squares, apparently without any central burial, and so far from the royal tombs, we cannot yet understand. It seems unlikely that any further series of burials of this beginning of history will be found elsewhere, and this year's work rounds off all that we can hope to have to represent this early age.

W. M. FLINDERS PETRIE.

Britain: Archæology.

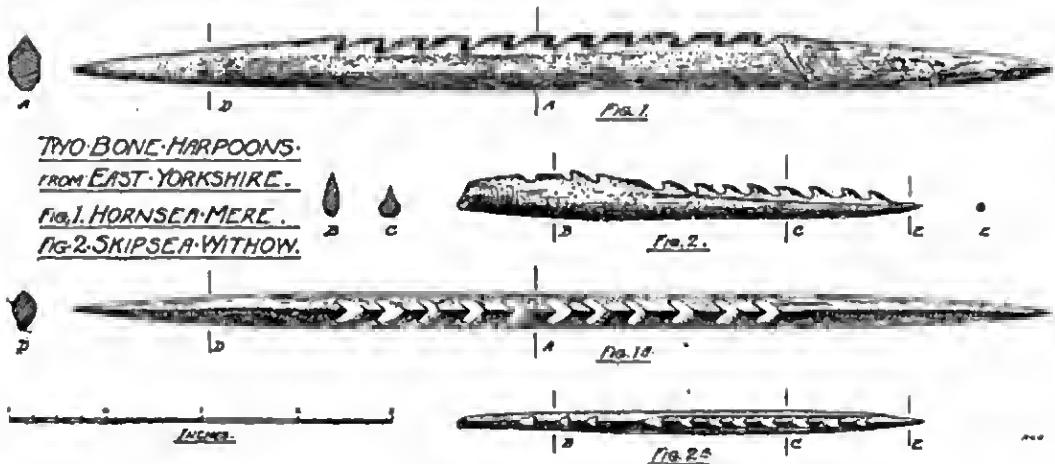
Armstrong.

Two East Yorkshire Bone Harpoons. *A. Leslie Armstrong, F.S.I., F.S.A. (Scot.).*

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In the collection of Mr. William Morfitt, of Atwick, a village in the Holderness portion of East Yorkshire, are two bone harpoons of exquisite workmanship, found beneath lacustrine deposits of peat in that locality, under conditions analogous to those of Maglemose, in the island of Zeeland.*

The harpoons are of a type not hitherto recorded in Britain, and comparable to examples from Maglemosian deposits of the Baltic area. They are more refined both in detail and design than the well-known flat Azilian harpoons of Victoria Cave, Settle, Oban, etc., and very strikingly recall Madgalenian examples from French caves. These facts, together with their position when discovered and the associated *Aneylus* fauna, suggest that the harpoons are of Maglemosian culture—a view



supported by Burkitt† and the Abbé Breuil.‡ Therefore, as no evidence has previously been obtained of Maglemosian culture in Britain, these indications in East Yorks. are of exceptional interest, and by the courtesy of Mr. Morfitt I am permitted to describe and figure them for the first time.

The Hornsea harpoon (Fig. 1) is the largest, measuring $10\frac{1}{2}$ inches long, $\frac{3}{16}$ inches broad and an extreme thickness of $\frac{1}{8}$ inches. It is pointed at both ends and has 11 barbs on one edge. The section of the barbed edge is triangular, and both faces are flattened in the centre and splayed towards the lower edge. The section in the middle (A), is therefore an irregular heptagon, becoming a pointed oval at the ends (D).

* F. L. Sarauw, "En Stenalders Boplads i Maglemose ved Mallerup" (*Aarbøger for nordisk Oldkyndighed og Historie*, Series 2, Vol. XVIII. (1903), p. 148). Hugo Obermaier, "Der Mensch der Vorzeit," p. 487.

† "Prehistory," pp. 155 and 108.

‡ Munro Lecture. Edinburgh, 1921.

The material is bone, probably cetacean, and has been shaped by rubbing; the resulting striæ being still visible notwithstanding the subsequent polishing of the bone. The barbs are spaced with great regularity and have been skilfully formed by sawing from each side of the central ridge at an angle of 45° therewith. These two cuts intersect and, being slightly inclined inwards from the vertical, result in the production of formidable hooks. (Figs. 1. and 1A.)

On the face of the harpoon, at the shaft end, are a series of fine oblique lines, roughly parallel and of varying depth, such as would result from lashing the weapon tightly to a wooden shaft. These occur on one face only, and as indicated in Fig. 1 (right).

This harpoon was found in 1915, by a workman, during excavations at the Hornsea Gas Works, which are situated about 200 yards distant from Hornsea Mere, in an area formerly occupied by its waters, but which, through the gradual encroachment of peaty deposits around the lake margin, long since became dry land. The harpoon was discovered beneath twelve feet of peat, amongst the remains of roots of sedge, reeds, etc. No other archaeological relics appear to have been noticed.

The Skipsea harpoon (Figs. 2 and 2A) is of an entirely different type, but of equally skilful workmanship. It is $4\frac{1}{2}$ inches long, $\frac{1}{2}$ inch in extreme width, and $\frac{1}{4}$ inch in extreme thickness, sharply pointed at one end and somewhat flattened at the other, which shows indications of an ancient fracture. There are 11 barbs, arranged in two groups of eight and three respectively. The series of eight barbs are cut in an edge triangular in section, the portion beneath widening out abruptly to a cylindrical section (C), which tapers gradually and eventually terminates in the sharp spear point (E). The remainder of the harpoon is oval in section (B).

A double spacing separates the two series of barbs, which differ distinctly in character. The series of eight are regularly spaced and delicately cut. The series of three are spaced with less regularity and are more correctly notches than barbs; probably intended for securing the harpoon to the shaft. There are no indications of any lashing impressions such as are noticeable on Fig. 1. The method of producing the barbs is different to that employed in the Hornsea harpoon. In this instance they are the result of piercing the edge at right angles to its length, and the resulting barbs are deeply undercut and hooked.

The harpoon was found in September, 1903, by Mr. B. Morfitt, whilst excavating for animal remains, in peat, upon the site of a small extinct mere, known as Skipsea Withow, north of Atwick. It was resting in silt, under five feet of overlying peat. Above it, enclosed in the peat, was the complete skeleton of a female elk (*Cervus giganteus*). At the same level as the harpoon, remains of reindeer, red deer and pike were discovered, but no other implements or relics of man.

No indications were met with of pile-dwellings. Both these harpoons are stained dark brown by contact with the peat; they are perfectly preserved and bear a lustrous polish. In general character and in workmanship they excel the figured examples from Maglemose,* and are strikingly reminiscent of the early Magdalenian tradition; particularly of the Abbé Breuil's examples figured by Macalister ("Text-book of European Archaeology"), pp. 390 and 391, Fig. 106 (A) 1, and Fig. 106 (B), 1, 2, and 3. Also of Déchelette, "Manuel d'Archéologie," Fig. 57 (1 and 2), G. and A. De Mortillet, "Musée Préhistorique," Fig. 217, and H. Obermaier, "El Hombre Fósil," Fig. 38 (a and d), in which he illustrates the evolution of the Magdalenian harpoon.

A. LESLIE ARMSTRONG.

* F. L. Sarauw, *Aarbøger for nordisk Oldkyndighed* (1903). R. A. S. Macalister, "Text-book of European Archaeology," p. 563.

Fiji: Technology.

Beasley.

A Fijian Oil Dish. By Harry G. Beasley.**76**

The Fijians display considerable ingenuity in the manufacture of their Oil Dishes, which take various shapes according to the fancy of the owner. Among these forms it occasionally happens that the human likeness is reproduced, whilst other living forms are even rarer. One shaped as a turtle has come to the notice of

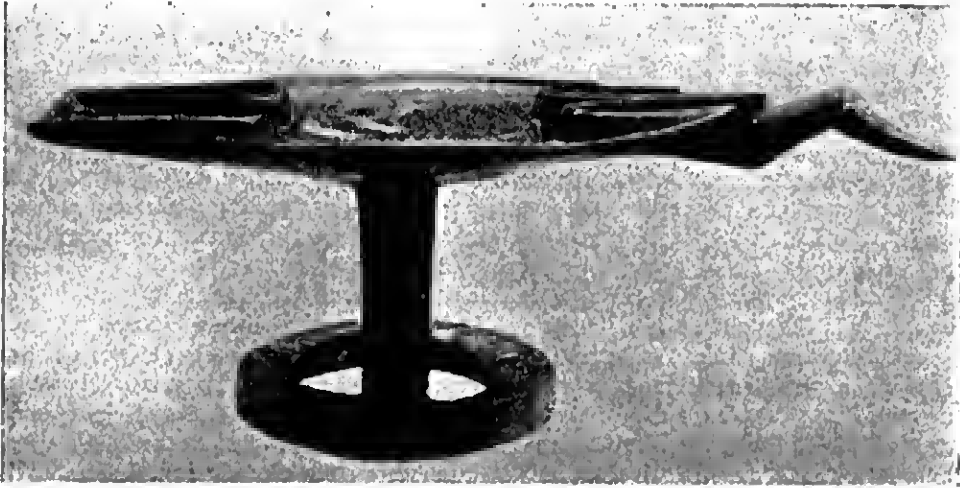


FIG. 1.

the writer, but by far the finest is that reproduced in Fig. 1. It was acquired from a country dealer in 1908, and, unfortunately, its history is unknown. It is cut from Vesi wood (*Azalia bijuga*), which was held in high esteem by the natives for making canoes, clubs and kava howls. The shape is obviously meant for a duck, which, according to Seeman,* are abundant and were probably introduced by Europeans. Readers of "Fiji and the Fijians"† will recall the little woodcut here

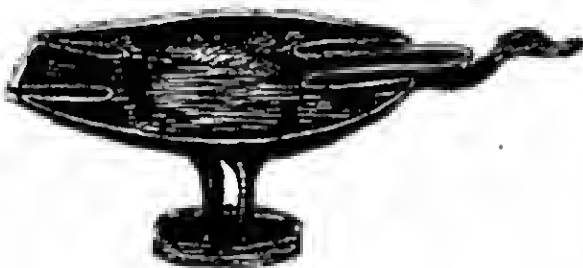


FIG. 2.

reproduced (Fig. 2) and described as "A Priest's Bowl" (*kava*). This last is, I think, erroneous, at least in the case under discussion, for it is well known that utensils holding kava received a fine patina from the fluid. As this deposit is entirely absent in the present instance, I am of the opinion that its

purpose was that of an oil dish, and the remarkable polish of the interior further strengthens this view. The small woodcut shown from Williams's book has a rather interesting history, for, according to Erskine,‡ p. 200, "We returned from Viwa (a small island north of M'Bau) laden with presents of arms and articles of native manufacture. Mr. and Mrs. Calvert were no less liberal, the former giving me a rare specimen of a Priest's sacred Kava bowl, carved in imitation of a Duck." Again this author says, on page 230: "The only attempts I have seen to represent,

* Seeman. "A Mission to Viti." p. 383.

† Williams and Calvert. "Fiji and the Fijians." 2 Vols. London, 1860. p. 77.

‡ Erskine. "Journal of a Cruise in the Western Pacific." London, 1853.

"in carving, living objects are an image and a Priest's Kava bowl, which I mentioned before as the gift of Mr. Calvert. The latter represents in a rude manner a Duck, or a bird of that nature, the back being hollowed out to receive the liquor."

That these references may both apply to this identical bowl is possible, but, unfortunately, its history ceases with the dealer from whom I bought it, and in spite of Calvert's claim that its purpose was to contain kava, I am still of the opinion that it was used rather for oil. Both figure and stand are cut from one piece, so that the labour must have been considerable. The legs show the tool marks very distinctly, but the bird's body, both in and outside, has been rubbed down. Formerly there were two inlaid eyes, made of white shell rings, the remaining ones being visible in the figure. The extreme length is $18\frac{1}{2}$ inches (46.5 cms.); width across the wings, $11\frac{1}{2}$ inches (29.5 cms.); height, $5\frac{1}{2}$ inches (15 cms.).

H. G. BEASLEY.

Britain: Archæology.

Somerville.

Remarks on Mr. Stone's Paper' on the Date of Stonehenge, and on the dating of Megalithic Structures by Astronomical Means generally. By Rear-Admiral Boyle T. Somerville, C.M.G.

77

Mr. Stone's paper, with its accompanying diagrams, sets forth to correct the date arrived at by Sir Norman Lockyer, through astronomical means, for the building of Stonehenge.

The correction made is calculated by employing a different estimation of the Change in the Obliquity of the Ecliptic from that used by Lockyer; and the result is to set back the date from 1680 B.C. (Lockyer) to 1840 B.C. (Stone).

This correction of 160 years is well within the limit of error allowed to his calculations by Lockyer himself, who, at page 68 of his book on "Stonehenge," declares that "the date (i.e., 1680 B.C.) thus derived may possibly be in error by "200 years, more or less; this gives us a date of construction lying between, say, "1900 and 1500 B.C." Sir Norman Lockyer's general dating, therefore, remains unshaken so far as Obliquity is concerned. It remains to be seen, however, whether the other factors on which he computed these figures can be accepted as being trustworthy.

It should be remarked that Mr. Stone, in his diagram of sunrise, lays himself open (perhaps unintentionally) to an adverse criticism. In this diagram, what appears to be illustrated is the rising of the *true* sun over the horizon's edge; whereas, when sunrise takes place what we see (and the ancients saw) is not the true sun, but the apparent sun. The true sun is, at that moment, quite invisible, being more than a whole diameter ($33' 42''$) below the horizon, and what we see is its refracted image.

True sunrise takes place several minutes later and at a position on the horizon a considerable distance to the right (or to the eastward) of the point where apparent sunrise has taken place. The necessity of discriminating between these two events is important, from a "dating" standpoint, as the succeeding remarks will show.

GENERAL REMARKS ON OBTAINING DATES BY ASTRONOMICAL MEANS.

The appearance of Mr. Stone's paper provides an opportunity for stating the limitations which surround the dating of prehistoric monuments by means of bearings of sunrise, or sunset. Though in general terms, they will have special reference to the local conditions at Stonehenge.

It may, perhaps, be as well to re-state the theory upon which this method of dating ancient monuments is based.

It has, first of all, to be presumed that a megalithic structure is "orientated," that is to say, has its ground-plan laid out so that its axis, or principal line, is directed to that point of the horizon at which took place the rising or the setting of some heavenly body—sun, moon, or star—at a particular date of the year. For example, Stonehenge is a monument obviously orientated to Midsummer Sunrise; and the problem before us is to deduce from this simple fact the year in which the monument was set up. The discussion falls under two headings, namely, Astronomical and Archæological, as follows:—

(1) *Astronomical*.—The point on the horizon at which Midsummer (and Midwinter) sunrise takes place is slowly, and progressively, changing throughout the ages. If the rate of that change be known, the year on which Midsummer (or Midwinter) sunrise took place on any particular bearing can be determined by working back from the present-day sunrise bearing. This refers also, of course, to sunset hearings.

The theory is, as will be seen, a perfectly sound and reasonable one, so far as it goes, and the calculation is not at all a difficult one; but when we come to consider closely the data on which that calculation has to rest, we begin to be filled with some anxiety as to the accuracy of the result at which we wish to arrive.

The change in the Midsummer Sunrise bearing referred to above is due to what is known to astronomers as the Change in the Obliquity of the Ecliptic. There is no reason to doubt the substantial accuracy of the figures which modern science has laid down either for the Obliquity itself, or for the secular change which it is undergoing—a Change that is itself ever changing. But more than "substantial" accuracy is needed for the calculation from an azimuth (or bearing) of the Sun of a date 4000 years distant, or more. Even during the past century our knowledge has improved of the causes that produce the change in Obliquity; and hitherto accepted figures have had to be altered in consequence. This forms one cause of uncertainty as to the results obtained; and further improvements in our knowledge may still further modify the dates arrived at.

Then, again, there is a possibility that there has been taking place (and still is taking place) an actual change in latitude of all positions on the Earth's surface, i.e., that the North and South Poles of the Earth, and the axis of revolution between them, are gradually changing. All azimuths or bearings are calculated from a Zero which is the North Pole of the Heavens; and this is defined to be the point on the celestial concave corresponding to the North Pole of the Earth—the point, namely, where the prolongation of the earth's axis in that direction would touch "the heavens." It is obvious, therefore, that if this change of North Pole is actually taking place, the whole system of dating by astronomical means, i.e., through the azimuth of a heavenly body, must be abandoned.

Let us grant, however, for the sake of argument, that the Change of Obliquity is accurately known, and that there has been no movement of the North Pole. We have next to consider the degree of accuracy necessary in making the actual observation in the field of the azimuth on which our dating is to be based. This brings us towards the second heading of the discussion, namely:—

(2) *Archæological*.—It must first be observed that the rate of change in azimuth, or bearing, of Midsummer sunrise throughout the centuries is exceedingly small; and at the latitude of Stonehenge, for example, is less than 1° of the horizon in 4000 years, or, to be accurate, is $13' 49.5''$ in 1000 years. That is to say that an error of $1' 23''$ in the bearing would throw the resulting date out by 100 years. That amount of error is, of course, a great deal outside what should be allowed to a competent observer, using a modern theodolite. Error of observation ought to lie, certainly within $20''$ of arc. But though we can exclude the observer himself as a source of large error, we can by no means do so with respect

to the pegged out line on the ground, which is to represent the axial line of the monument of which he is observing the azimuth.

If this line has to be determined solely from the positions in the ground of the stones forming the monument the accuracy of such a line is altogether problematical, and almost certainly would not be within $1\frac{1}{2}'$ of the truth. Not only are the stones of megalithic monuments themselves so rough in shape, and so large in dimensions that an *accurate* axial line can scarcely be laid out, but also they are seldom, if ever, to be found truly symmetrically placed. Whether this is due to faulty "planting" in the ground by the builders, or whether it is due to subsequent ground-movement, whether seismic, or through earth-worms, it is impossible to say. It is the case, however, that Stone Circles are, nowadays, rarely true "circles," and Stone Alignments are rarely straight lines.

It should be said, however, that these difficulties disappear, for practical purposes, if the axial line of observation can be shown to be a really long one. For example, if such a line were one quarter of a geographical mile in length, an error in bearing represented by a base of one foot, at that distance, would amount to $2' 16''$, whereas, if the axial line were one mile in length, an error of one foot to the right or left, at that distance, amounts only to $0' 34''$; and at 5 miles, to only $0' 7''$.

From this we see that the longer the line of observation, the less is the chance of error in the derived date. But there are few cases indeed, as yet known, in which the undoubted connection of a megalithic monument with an object over one mile away can be stated.

Besides the difficulty mentioned above in deciding on the axial line of any ancient megalithic structure, there is a further difficulty in deciding on the point of observation at which the observer should set up his theodolite to observe the azimuth of that line. This position requires also to be known with a degree of accuracy proportional to the length of the axis whose bearing is required: the shorter the axis, the greater the need for precision. The problem is the same as in the case of the axial line itself, discussed above.

But over and above these points there is another of a purely archaeological nature which must be considered in the matter of dating by means of an azimuth of sunrise; and it is one that probably never will be settled. It is contained in this question:—

What actual point of the sunrise are we to take as that for which the ancient builders laid out their line? Was it, as Sir Norman Lockyer assumed at Stonehenge, when the upper edge of the Sun was elevated $2'$ above the horizon? Was it when the Sun was half risen, when its centre was on the horizon? or was it when the whole disc was seen entire, and apparently standing on the horizon?

The difference in the resulting date, according to which of these three azimuths is observed, is very considerable. In these latitudes, on no day of the year does the Sun rise perpendicularly, but does so at an angle with the horizon. It is rapidly changing its azimuth as it rises; and consequently the azimuth of the Sun's centre at its first appearance is a good deal different from that when the whole Sun is "up," and standing on the horizon.

At Stonehenge, for example, if the azimuth of the *first appearance* of the Sun be taken, the date works out at 1840 B.C. If the azimuth of the Sun's centre be taken when the Sun is *half risen*, the date is set back to about 3310 B.C.; and if when the Sun is *completely risen*, the date derived from the azimuth of this position of the Sun works out to about 5200 B.C.

We might, of course, argue back from this that the first date, namely, 1840 B.C., is the more probable one, because it fits in with our preconceived ideas of the date of the age to which these monuments belong, and that *therefore* the first emergence

of the Sun above the horizon was the moment looked for by the builders. But the mathematical fact is as stated, and when taken into consideration with the other difficulties and uncertainties as to observer's position, and the true axial line to be observed, not to speak of the state of our knowledge respecting the Change in Obliquity, it seems to be useless to attempt to arrive at a date of any monument which, like Stonehenge, is able to provide only a *Sun* orientation.

Where there is a *Star* orientation, on the other hand, the problem of dating is much more likely to provide a correct result. In the first place, there is no question of the moment of observation to be chosen, such as was discussed in the preceding paragraphs with respect to the Sun, for the diameter of a Star is inappreciable. At its rising, the whole star becomes instantly visible, and at a single point on the horizon. In the next place, the effect of the Change in Obliquity on stars is very much greater than it is on the Sun. The amount of alteration in its apparent position in the heavens (which is principally, but not entirely due to the change in Obliquity) differs for every star; but let us take as an example one of about the average alteration, namely, the Pleiades—a star-cluster, moreover, that was, historically, watched for in pagan times.

The change in bearing of the rising of the Pleiades, as it would have been seen at Stonehenge between 2000 and 1000 B.C., was $9^{\circ} 2'$, or $54' 10''$ per 100 years. When we contrast this with the change in the Sun's rising azimuth for the same period, namely, $1' 23''$ in 100 years, we can see that, other things being equal, the chances of arriving at a correct date from the gradual change in bearing are very greatly increased when a star is observed. Unfortunately, there is no indication of such an orientation at Stonehenge.

We have now seen the general limitations surrounding the dating of any megalithic monument through its orientation, whether by sun, or by star. In the course of the discussion, several references, in illustration, have been made to Stonehenge; and it now remains to bring forward some further facts concerning this particular monument, which are in danger of being overlooked by those who suppose that it is possible to arrive at the date of its construction through astronomical means:—

(1) There are at Stonehenge *two* monuments on the same site; one, apparently, considerably more ancient than the other. There is, first, the rude stone circle of "blue stone," to which probably (but not certainly) belongs the circular earthwork vallum surrounding the stones and also the earthwork "avenue" directed to the north-east; and, secondly, the great incomplete "circle" of well-faced sarsen stones with lintels, morticed and tenoned, which is evidently a much more recent construction. Which of these two entirely distinct monuments is that for which a date of erection is sought?

(2) Neither the remains of the "blue-stone" circle, nor those of the sarsen circle stand on the arcs of a *true* circle. Consequently, it is not possible to discover the accurate centre, nor any given diameter of either of them.

(3) Such remains as are still visible of the earthwork vallum that defines each side of the "avenue" do not lie on parallel lines; nor does either wall appear to be straight. Consequently it is not possible to lay down any accurate *single* central line, or axis, which can be connected either with a diameter of the circle or with any spot within its circumference. The spot chosen by Sir Norman Lockyer was almost entirely an arbitrary one, as may be seen in his book.

(4) From the central part of the circle to the furthest determinable point of the "avenue" is about 260 feet. An uncertainty of position of the spot whence the observation of the azimuth of the axis should be taken of only 12 inches to the left or right, would make an alteration of $13' 13''$ in the azimuth of a point at the distance

of the end of the avenue. That is to say, a difference of date of 1000 years is effected by the movement of the observer of only *one foot* to left or to right of what may originally have been the true point of observation within the circle.

We may now sum up the results arrived at in the foregoing discussion, placing them under two headings, namely, first, the general possibility of obtaining a date from the orientation of any megalithic monument, and secondly, the application of these possibilities in the particular instance of Stonehenge.

GENERAL APPLICATION.

Sun Orientations (Midsummer or Midwinter rising, or setting azimuths).—Unless a definite sight-line of not less than one mile in length is available, the finding of a date by the Sun is impracticable. The change in azimuth in past ages of sunrise or sunset has been too small in amount to admit of *any* doubt either in the line of orientation itself, or in the position from which the observation for azimuth should be taken.

Where the sight-line has to be deduced solely from the present positions of megaliths, or lines of earthwork, an element of considerable doubt must always exist. Complete accuracy is essential.

Star Orientations (risings or settings).—On the other hand, though a longer sight-line than the ground-plan of a rude stone monument can give is still desirable, dating through orientation towards a Star is a practical proposition, for the change in the rising, or setting azimuth of the stars (generally speaking) in 100 years is about that of the Sun in 4000 years. Even if the line of orientation derived from the ground-plan of the monument should be in error by as much as 1° of bearing, a fairly correct resulting date would still be obtained, namely, within one century.

STONEHENGE.

The attempt to date either of the two Stone Circles at Stonehenge by the azimuth of the Midsummer Sunrise is useless, as the present condition of ruin of the monument is too great to lay out from the ground-plan of either Circle an orientation line of sufficient accuracy.

If, however, the orientation towards Silbury Hill (8 miles distant) can be considered a probability, as it was by Sir Norman Lockyer, the limits of date given by him, namely, 200 years on either side of 1680 B.C., are justified for whichever Circle to which it related.

The possibility of one, or both of these monuments being orientated to a Star (as well as to Midsummer Sunrise) has not yet, it is believed, been examined. If such could be found, the above given date could readily be checked.

BOYLE T. SOMERVILLE.

Obituary.

Read.

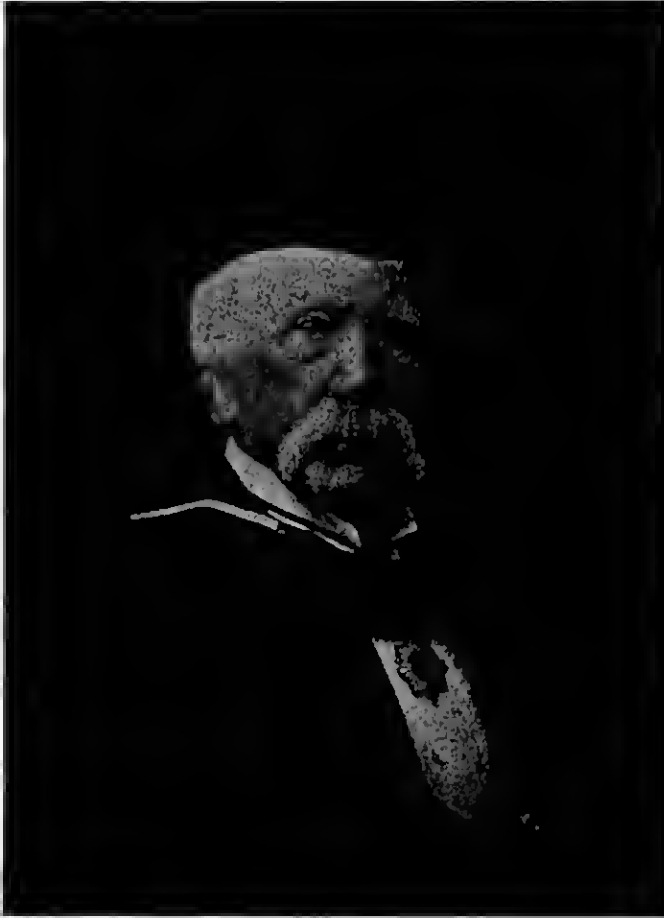
William Gowland, F.R.S., F.S.A., born 1842, died June 10th, 1922.

By Sir C. Hercules Read, P.S.A.

78

Professor William Gowland died on June 10th at the age of 80 years. As a chemist and metallurgist he had had a long and distinguished career, and his contributions to the proceedings of the numerous societies of which he was a member have greatly advanced knowledge in the particular directions in which he was interested. For sixteen years from 1872 he was chemist and the European head of the Japanese mint, educating his successors so as to render them independent of foreign aid. During his residence in Japan he excavated a great number of dolmens of the period covering the earlier centuries of our era, and on his retirement he brought the collection thus formed to England, where he ceded it to the late

Sir Wollaston Franks on favourable terms, and it now forms an important section of the Japanese section of the British Museum. From the moment of his retirement from the Japanese Service he devoted himself assiduously to scientific pursuits, by no means confined to chemistry and metallurgy, but spreading his interests over a wide field, comprising anthropology and archaeology. He made many important communications to the *Journal of the Institute*, and was a frequent contributor to the publications of the Society of Antiquaries. For years past he had written papers on the history of the principal metals, which were printed in *Archæologia*. But his principal service to the archæological world was in the raising



WILLIAM GOWLAND, F.R.S., F.S.A.

of the great leaning stone at Stonehenge, under the auspices of the Society of Antiquaries. In performing this work he demonstrated the methods that had been adopted in shaping and in raising the great monoliths, and was enabled, moreover, to produce evidence to show that the date of its construction was at the end of the neolithic age. The fact that the monument was at that time in private ownership imposed considerable limitations on the scope of operations, though the owner, Sir Edmund Antrobus, was throughout the work in entire sympathy with Professor Gowland and the Society.

In the determination of the metallic relics found in explorations, Professor

Gowland's great knowledge was always freely placed at the disposal of his fellow workers, and he was invaluable in discovering analogies for ancient methods of working from his wide experience in the East. He was extremely generous in imparting knowledge and will be greatly missed in many circles of scientific research. He was a Fellow of the Royal Society, and Emeritus Professor of Metallurgy at the Royal School of Mines, and the Japanese Government made him a Chevalier of the Order of the Rising Sun. No one who knew him at all intimately could fail to admire his vast and accurate knowledge, and his generous character attracted the regard of all who came in contact with him.

C. H. READ.

India : Religion.

Hocart.

Mana again. By Captain A. M. Hocart.

79

Words, like men, often owe their success to the stars rather than to merit. *Mana* is one of those lucky words : as far as its meaning goes it is neither more nor less interesting than hosts of other words in use throughout the world. The Pali word *iddhi* covers ideas equally worthy of study; it has a more ancient history, and can be traced from the earliest times in one of the hulkiest literatures in existence; yet it has never had the vogue which has fallen to *mana*, a mere upstart, without a history and without a literature. But the word *mana* is only found among people reputed to be savages, and savages have come into fashion. The very lack of literature is in its favour : *omne ignotum*. . . . Last, but not least, it has the advantage in sound over any of its rivals : it is simple and easy, with a reminiscence of the Old Testament about it; whereas that outlandish *ddh* is as sure a har to the popularity of *iddhi*, as a stammer is to the success of a public speaker.

The word *iddhi*, just like *mana*, means "miraculous power." Like *mana*, it is associated with kings*. In the first part of the Mahavansa, compiled in the middle of the 5th century A.D., it is ascribed to the Sinhalese king Dutthagamani (c. 100 B.C.). The Emperor Asoka (c. 260 B.C.) and a cohra king are both described as *mahiddhika*, that is "possessed of great efficacy" (Mah. V, 87 & 94). Parakrama Bahu, the great king of Ceylon in the 12th century A.D., is credited with it. There is, in fact, a special compound *rājiddhi*, which means "the king's miraculous power."

Elara, the Tamil king of Ceylon about 145-101 B.C. possessed *iddhi* in a form which is interesting to note : a woman complained to the king that the rain falling out of due season had spoilt the rice which she had spread out to dry. Elara reflected : "A king who observes righteousness (*dhamma*) surely obtains rain in due season." So by penance he obtained from the gods that rain should only fall at night and once a week. (Mah. XXI, 27-34.) This is exactly the South Sea idea of a king, but with a moral turn characteristically Indian. The reader will find the South Sea idea described in my paper on "Chieftainship in the Pacific" (*American Anthropologist*, N.S., 1915, p. 631).

In Buddhist literature *iddhi* appears chiefly as an attribute of Buddha and his *arahats*. Now, the conception of Buddha is that of a spiritual king : he has taken over all the attributes of a supreme king (*cakkavatti*), such as majesty (*tejas*), righteousness (*dhamma*), victory (*jaya*); *iddhi* is merely another.

The etymology of *iddhi* is interesting. It comes from the Sanskrit *rddhi*, "success, prosperity, supernatural power." This again leads us back to the South Seas : there we heard a number of witnesses who, in defining *mana*, almost invariably underlined the idea of success. For the proof of the pudding is in the eating : if a man's words or wishes come to pass, it is evident that he has miraculous efficacy; if a chief's rule is marked it is evident "he stands well with the god."† Codrington, in his "Melanesians," says that "the power of a chief has hitherto rested upon the belief in their supernatural power derived from the spirits or ghosts with which they have intercourse" (p. 46; cf. p. 52). Thus the transition from prosperity to miraculous power is quite natural.

Pali has another word for miraculous power, namely, *ānubhāva*. It is frequently used in connection with *iddhi*; in fact the compound *iddhānubhāva* occurs. *Anubhava* is ascribed to gods and to Buddha, to an enchantress (Mah. VII., 36), and, like *mana*, to inanimate objects; thus in the Dādhivāhana Jātaka a pig finds a magic ring, by the *ānubhāva* of which he flies through the air. A modern Sinhalese

* "Mana," MAN, 1914, No. 46.

† "Sa ndonu vuā na kalou," as a Fijian put it. Rarotonga : "ko tana mana nei nona ko tona ia atua" : his power is the power of his god. (Tregear, "Comparative Maori Dictionary").

defines it: "To be able to do by merit what one thinks. If he thinks that the "sea become stone it becomes stone"², thus preserving the original Sanskrit idea of "thought," "perception." *Anubhāva* also means "dignity," "authority"—meanings which it has in common with *mana* as used in Tahiti, Rarotonga, New Zealand.

As Indian influence extends as far as Indonesia to the East, and the word *mana* as far as Madagascar to the West, no one has the right to deny that the conception of *mana* is derived from the same source as that of *iddhi*. Indeed, it is quite possible that the word *mana* is of Indian origin. Sanskrit *manas* means "mind"; Malay *manah* means the same. We have seen that *ānubhāva* from meaning "thought," "perception" has come to mean "magic power"; for the essence of a miracle is that it is performed by thought.

The idea of *mana* is not confined to ancient India and modern Polynesia. We find it in Genesis xxxix., 2 ff.: "And the Lord was with Joseph, and he was a "prosperous man. And his master saw that the Lord was with him, and that the "Lord made all that he did to prosper in his hands." It was flourishing in England in the xviii century; when Cromwell joined Fairfax before the battle of Naseby he was "hailed with the liveliest demonstrations of joy by the general and his army: " 'For it had been observed,' says an onlooker of those days, 'that God was with "him and that affairs were blessed under his hand.'"[†]

If we admit that all these beliefs hail from the same source we at once invest the idea of *mana* with a new interest. The only hope of comparative religion is to do like comparative philology: to collect from various parts of the world conceptions which, obviously, have a common origin, and, by comparing them, to arrive at the original from which they all derive. Now, if we compare the Indian with the Polynesian idea in the case before us, we shall conclude that the Polynesian is the more archaic. The reasons are:—

Firstly, the Polynesian conception is a practical one; *mana* has practical results: it destroys enemies, procures good hauls of fish, good crops, and victory in war. *Iddhi*, on the other hand, manifests itself mostly in miracles that merely excite wonder and satisfy the popular appetite for the marvellous, but have no practical consequences, unless it be the conversion of astonished unbelievers. A Sinhalese servant defines *ārdhi*, as "going through the air" (*udin yanavā*). There is no reference in his explanations to that efficacy which is contained in almost every definition of *mana*. On that ground alone I would regard the Polynesian idea as more archaic than the Buddhist. For it may be taken as an axiom that every idea comes into being for a purpose; when it loses that purpose, and becomes an idea pure and simple, it is a survival.

Moreover *iddhi* is not a thing of to-day, but a thing of the past, at least in Ceylon. In the old days there were saints, and therefore *iddhi*; but not now. That shows that *iddhi* is dead and fossilised. *Mana*, on the other hand, is a living conception; you can meet any day men who possess supernatural powers; every great nobleman has it. The effects of *iddhi* are stupendous; those of *mana* are no more wonderful in themselves than a good hand of bridge or a prize in a sweepstake.[‡]

Thirdly, the Indian view cannot be traced in the South Seas; but the South Sea notion of *mana* has been shown to occur in the old literature of India.

Lastly, the etymology of the Indian word leads us back to those ideas of prosperity and success which are essential in every definition laid down by Polynesians and Melanesians.

* "Pipen hitū deyak karanta puluvani. Mūda gal venta hitanavānam, mūda gal venavā."

† Morley: Oliver Cromwell, p. 185.

‡ Contrary to the usual views about "primitive" people, it is the more civilised who indulge their appetite for awe and wonder, not the more savage.

One might add that the Polynesian idea is more archaic also than our idea of a miracle. The essence of a miracle is that it causes wonder; that is implied in the very etymology of the word.

Viewed from a historical standpoint the idea of *mana* assumes a far greater interest than when it was merely a nebulous conception of the schools. It now takes its place in the history of religions as one of the more archaic forms of a belief that has spread to the uttermost bounds of the earth, and it now appears more certain than before that *mana* is intimately connected with that doctrine of the divinity of kings which has so profoundly affected the religious history of the world. We can henceforth use the Polynesian idea to explain later forms, and we can compare it with other forms equally or more archaic, and thus perhaps work our way back to the fountain-head of them all.

A. M. HOCART.

REVIEWS.

Assam: Ethnography.

Hutton.

The Angami Nagas. By J. H. Hutton, C.I.E., M.A. Macmillan & Co., 1921. 442 pp., with maps and illustration. Price 40s. 80

The Angamis have found in Mr. Hutton a historian equal to the task. Years ago, when the scheme for the Ethnographic Survey of Assam was started, every sign pointed to Mr. A. W. Davis as the one and greatest authority on the Angamis, but Mr. Davis has passed away. All that is recorded and preserved of his extensive knowledge of the tribes of the Naga Hills district is the information in the Assam Census Report for 1891. Mr. Hutton may, but need not, excuse himself by the plea that he is not a trained anthropologist. He is a competent observer, he knows his people, he deals with them direct, and he describes them faithfully, with insight and sympathy. He has had for his guidance "Notes and Queries on Anthropology," as well as Dr. Rivers on the Genealogical Method—advantages denied to his predecessors, among whom may be counted Colonel McCulloch and Dr. Brown, who, from their coign of vantage in Manipur, viewed the Angamis of their day.

It is a good book and welcome. It will be found to contain a mass of information for the scientific student of anthropology, well set-out and carefully indexed, and with useful notes on Bibliography. At the start we come on to interesting matter. There have been streams of migration from the north as well as from the south. Lines of "pressure" can be traced to the east as well as to the north-west. The problem of the succession of the layers of population in the hills of Assam is one, and should be dealt with in the fulness of time as one. Its elements include the Khasis as well as the Naga tribes, the Kuki Chin peoples as well as the Garos and Mikirs. How far and in what sense traditions of origin have value are matters for careful thought. That at some earlier period Angamis and others in this area have been in contact with the sea is probable. The theory that the system of terraced fields is "a legacy bequeathed to these tribes by a sojourn in the lowlands of "Imphal as they migrated north" must note the facts that jhumming is still practised by the Angamis as well as by other Nagas and that terraced fields are found in many parts of the world practised by peoples who are not—as yet—suspected of having sojourned in the low lands of Imphal (see p. 340, Vol. I, Payne, "History of the New World called America"). I have commented on "the skill with which advantage "is taken of the tree logs to employ them as retaining walls to keep the moisture "in the ground, thus making use of the principle of the terraced field in places "where terraced fields are impossible on a large scale." The bamboo dominates the culture of the people who subsist mainly or exclusively on jhumms. The Naga lives in an area where the presence of stone and the larger trees invites him to a permanent life—with all its consequences. It is interesting to note that Mr. Hutton attributes

the multiplicity of dialects to isolation, a topic on which it is necessary to consult Rivers ("History of Melanesian Society," II, p. 471). It is in Assam, particularly, that the need for a phonetic survey is most evident—a matter to which, had circumstances enabled me to be charged, as the Government of India proposed, with the census of the Province in 1921, I proposed to give considerable attention. If, concurrently with the dialectical variation, there is also phonetic variation, attributable to definite differences in the structure of the organs of speech, the intrusion of foreign elements may be suspected. The questions of origin and affinities have, therefore, to be tackled afresh on fresh lines. Tones, hitherto regarded by the philologist as evidence of detrition (see "Linguistic Survey of India," II, 69), are found in Angami (Hutton, pp. 295 and 315). The numeral system is decimal, with suffixed multiplier. There are, however, irregular, perhaps intruded, forms. There is the score, *mokwu*; the ten base, *LHI* in *lhida* (*da* = 4) (*lhi* = ten, as *inlhi suru* and *lhi thena*), and in *sekerr* we have the *R* base (see "Numeral Systems of the Tibeto-Burman dialects," JRAS, April 1913). All this—to me, at least—points to intrusions of foreign elements.

In the matter of social structure much useful information is here provided. I note the evidence for a duality of structure, now vestigial, which Hutton records (p. 110, sq. 361, 366). This helps on our knowledge of the persistence of this important feature of social organisation so characteristic of the Garos. It was also a feature of Khasi social structure, but some influence has broken up Khasi society and the recognition of male kinship by the use of a special term in Khasi may help later investigators to identify the nature and origin of the earlier stratum of the population of these hills.

Hutton has given us a useful list of the terms of relationship, on which a comment may be allowed. They afford evidence that certain relations whom we separate are classed together. Thus the term *Mi* is used for the (1) father's sister's husband, (2) the mother's brother, and (3) the father-in-law, in the last case used in this sense by both man and woman. This correspondence is found in Garo, where its presence is not, as with the Angami, a survival but a real expression of the present social order. There are other correspondences and it will certainly be worth while to compare the list presented by Hutton with the material collected throughout Assam years ago, though in so doing allowance must be made for the errors of commission and omission due to ignorance of both the English and the vernacular terms, especially, as Hutton has pointed out to me, in the lists prepared by natives of India. There is a table of correspondences on p. 84 of the Assam Census Report for 1911, which does not give the terms used but indicates the equivalences. The whole question is important; but, under the new order of things, now that the census is to be on a purely statistical scheme—lest offence be given to the sensitive—it is not likely that much more will be effected through official means.

I should like to draw attention to the remarks on head-hunting, on the social divisions, on the development of gennas, on tree burial, on ceremonial dances, on the beliefs in reincarnation, on funeral ritual, on infanticide, totemism, rain-making and rain-preventing rites, folk-lore, the prohibition of marital relations for a prolonged period, the chastity of the unmarried—topics of peculiar scientific interest, and all thoroughly well described. It is interesting to see that, just as in the Stone Circle at Uilong—which does not seem to have been known till I visited it over 20 years ago—the circular form has been kept in the stone monuments at Khonoma associated with the first Kemovo, as shown in the admirable photograph (one of many in the book) on p. 49. Be it remembered that the Nagas still erect stone monuments. Be it remembered that the stone monuments continue from Assam to Bengal (Santals and Mundas) and thence to Southern India, as noted by Fergusson, so that we may, perhaps, link up the megalithic culture of Indonesia, as

analysed by Mr. Perry, with the extreme limits of India, just as there are grounds for suspecting that other features common over this area are attributable to the contact, at a distant period, with one and the same culture.

To the main monograph, which describes the tailed men of the Angamis with lucidity, breadth and sanity of view, and fidelity to detail, are added notes by Colonel Shakespear on the Memi, old friends of mine, and by Hutton himself on the non-Angami tribes of the Naga Hills—the western Nagas (Somas, Rengmas, Ihotas), the central Nagas (Tangkhuls, Aos, Sangtams, Yachumi, and perhaps Changs and Phoms), the eastern Nagas, and the tribes beyond. Is there no man wealthy enough to fit out a quest which shall investigate this area? I am sure that there is plenty of material to be garnered in. If only the author of this admirable account of the Angamis (from whom, it is comforting to know, we now have a further volume on the Semas) could be persuaded to command the venture “in addition to his other duties,” as the Gazette would say, a task for which he is so obviously fitted, the reproach that we are letting Americans and Germans reap the harvest that we have sown, would lose some of its sting. Time is short. I know the Angami to be hospitable for I have drunk his beer, I know him to be independent and genial and to possess humour. He has great qualities. I can imagine a demand for “self-determination” from him. If he put in an appearance at Geneva in tail and kilt, he would enliven the dreary drip of dilatory and polyglot debate.

T. C. HODSON.

Borneo, North: Ethnography.

Evans.

Among Primitive Peoples in Borneo: a description of the lives, habits and customs of the piratical head-hunters of North Borneo, with an account of interesting objects of prehistoric antiquity discovered in the island. By Ivor H. N. Evans, B.A., F.R.A.I. London: Seeley, Service & Co., Ltd., 1922. Pp. 318. 21 illustrations and one map. Price 21s. nett. **81**

The greater part of this book consists of an interesting and valuable account of the native tribes inhabiting the districts of North Borneo with which the author was most familiar. Some of them, the Bajaus and Illanuns of the coast, are Muhammadans, but the bulk of the upcountry people, known as Orang Dusun, are pagans and seem to be a finer, if more backward, race. At any rate Mr. Evans does not disguise his preference for them. He gives a very sympathetic and readable account of the sort of life led by these different tribes, with a good deal of information about their customs, legends, and beliefs, as well as their material culture and the nature of the country they inhabit. In one of the later chapters he rather labours the point that the Orang Dusun are not (as has sometimes been alleged) of Chinese descent, and that the compound prefix, *kina* (e.g., in the name of Mt. Kinabalu) has no reference to the Chinese. However, it was quite worth while to dispose finally of these absurd theories. More might with advantage have been said about the language of these peoples, for very little is known to the outer world about the languages spoken in North Borneo (other than Malay). Incidentally it may be mentioned that the word *mēnghaji* (p. 155) represents the ordinary Malay *mēngaji* and has nothing whatever to do with *haji*, a Mecca pilgrim.

C. O. BLAGDEN.

Europe: Anthropogeography.

Fleure.

The Peoples of Europe. By Herbert John Fleure, D.Sc., Professor of Geography and Anthropology at the University College of Wales, Hon. Secretary to the Geographical Association. Oxford and London, 1922: University Press and Humphrey Milford. Pp. 110, with 3 maps. Price 2s. 6d. **82**

This little volume deals with the human geography of Europe and is intended primarily for the general reader, but it has a thoroughly anthropological outlook

and contains many of the results of recent research. It should go far to promote a better understanding among the peoples of Europe, and so to smooth the path of the League of Nations in their endeavours to promote a peaceful atmosphere. There is naturally little that is absolutely new to the anthropologist, though some well-known facts are given a fresh interpretation. The author recognises among the skulls from the Russian kurgans many which resemble in important details those of the Brunn-Brux-Comhe Capelle type; this will give food for thought to those who have been puzzling over the disappearance of the men of Solntré. H. J. E. P.

China: Religion.

Granet.

La Religion des Chinois. Par Marcel Granet, Chargé de Cours à la Sorbonne, Professeur à l'École des Hautes Études, Paris. 1922. 83

Voltaire described England as a country with a hundred religions and only one sauce. In view of the size and estimated population of China, and of the common Chinese saying that "the three religions are one," he would probably have felt M. Granet's title to be a misnomer; but it is not. M. Granet's aim is to elucidate the religion *par excellence* of the Chinese, the official religion, now known as Confucianism, the beginnings of which date back to primeval times, and the development of which was effected through the great kings of old, through Confucius (d. 479 B.C.), Mencius (d. 289 B.C.), Chu Hsi (d. 1200 A.D.), and others, down to the present day.

Thus we have a chapter on the religion of the peasant, as seen in the rural life of early ages, with its mysteriously sacred spots, its beliefs, and its popular mythology.

This is followed by a chapter on religion under the feudal system, town-life as opposed to country-life, with its more highly developed worship of what M. Granet calls "le Ciel," just as for a long period English scholars spoke of the same object of worship as "Heaven." It has been shown, however, by Mr. L. C. Hopkins that the Chinese character in question, T'ien, is a picture of an anthropomorphic Being, and may therefore be more correctly translated by "God." This same chapter further treats of the all-important Ancestor Worship and of several local cults.

Chapter III. is devoted to the official religion, an outcome in its beginnings from the feudal religion which had already begun to extend its scope and to become a national and no longer a class religion as heretofore. It was taught by scholars who accepted Confucius as their guide and who sought to explain his doctrines. Its ethics were based upon the ancient Canon, but its metaphysical teachings were derived from a variety of sources. Its ceremonial observances were in many cases survivals from feudal rule, adapted as time went on to the changed conditions of an empire.

Chapter IV. deals somewhat unsatisfactorily with Taoism and Buddhism, and the work ends with a fifth chapter on religious feeling in modern China.

The details given by M. Granet are multitudinous, and it would be easy to point out omissions, inaccuracies, and even contradictions; but it is fairer to regard the work as a whole, especially as it would be impossible to do justice either to M. Granet or to his readers in a brief notice like this. M. Granet rarely mentions the sources of his inspiration and never once gives a direct reference to his authorities. These are familiar enough to every advanced student of Chinese, his work being a digest of the Confucian Canon, with perhaps special drafts upon the Book of Rites, the Rites of the Chow Dynasty, and the Book of Etiquette and Ceremonial, translated by Dr. Legge, M. Biot and Dr. Steele, respectively. He has drawn upon the researches and translations of previous writers, marshalling lucidly facts already known, without adding any new ones. The one great defect of a very interesting book is that there is no index, and that points which a reader may wish to recall cannot be easily recaptured.

H. A. GILES.

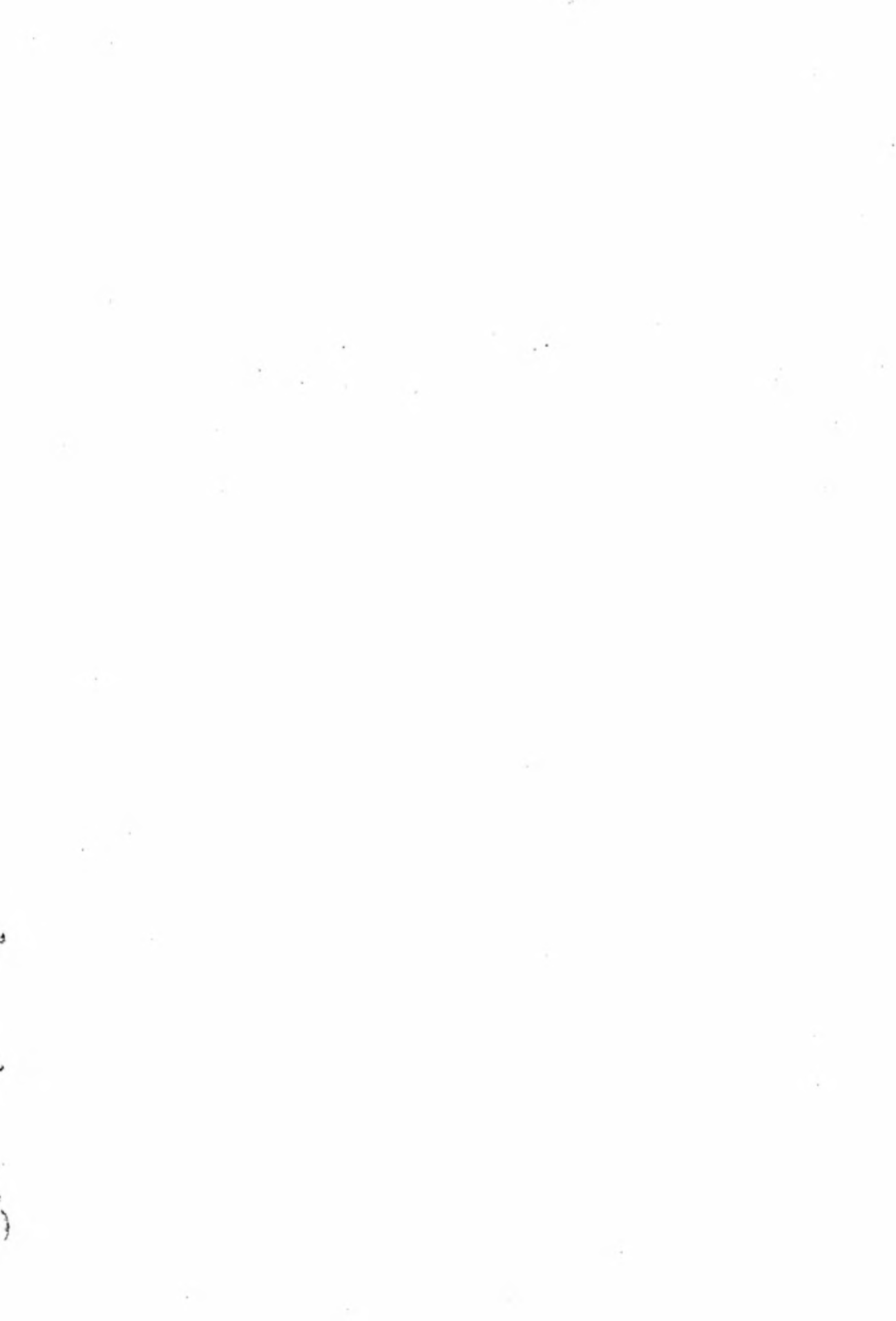




FIG. 1.



FIG. 2.



FIG. 3.

THE ARROWS OF THE UPPER MOREHEAD RIVER (PAPUA) BUSH TRIBES.

ORIGINAL ARTICLES.

With Plate K.

Papua: Technology.

Lyons.

The Arrows of the Upper Morehead River (Papua) Bush Tribes.
 By A. P. Lyons.

84

All Europeans who are familiar with the western portion of the territory of Papua have seen, and probably possessed, what are commonly called "Buji" arrows, yet few of them are aware of the places where, and by whom, these arrows are manufactured. Besides Buji, they are to be found in many villages situated between the Wassi-kussa and Binaturi Rivers, and though arrows are made by members of all tribes living in the western division of Papua, the fact that the Buji arrows are universally preferred is ample proof of their superiority.

A diagonal drawn between the points of intersection of the 141st meridian of East longitude with the 9th parallel of South latitude, and the 143rd with that of the 7th parallel of South latitude (see Fig. 1), forms a boundary below which the arrows dealt with in this article are not made, though used extensively.

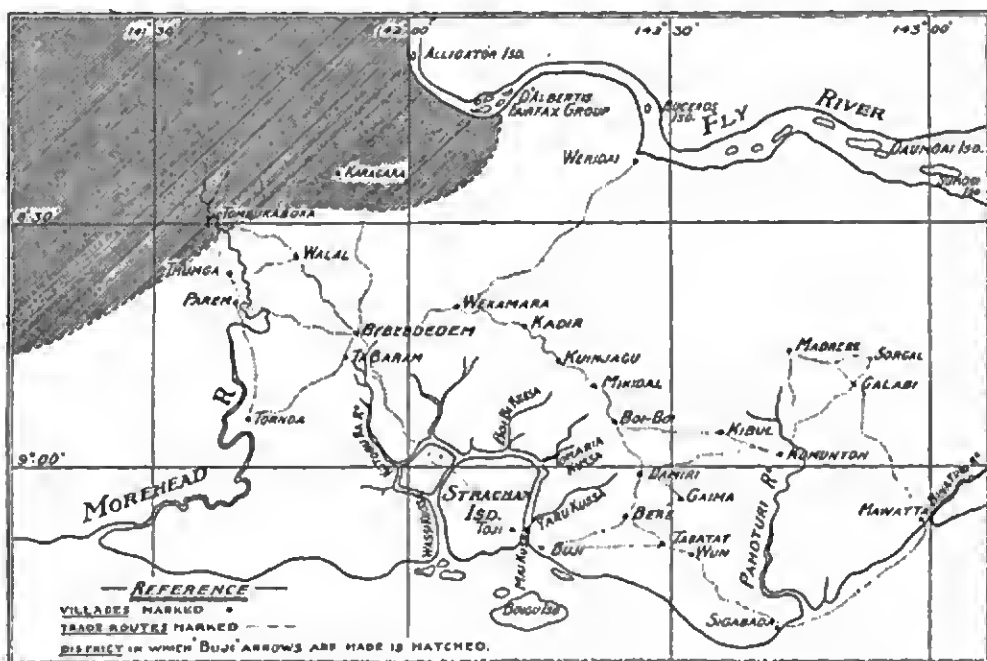


FIG. 1.

Above that boundary, and situated on the west bank of the Morehead River, near its watershed, is the village of Tomhukahora; to the north-east of it is the village of Karagara. Each of these villages bears the tribal name of its inhabitants. For many years past these two tribes have been the principal manufacturers of the Buji arrows that have been used by tribesmen living below the boundary line above-mentioned.

Arrow-making proceeds uninterruptedly throughout the year at the Tombukahora and Karagara villages, and a constant trading of arrows is maintained between the natives of these villages and those of others situated further south. However, it is usually on the occasion of an annual festival that is given by either of the two tribes mentioned, or by one or other of their neighbours, and at which people from

distant parts attend, that the principal trading is done. Stone axe-heads, stone beads for clubs, and shells for covering the penis, are the articles demanded by the Tombukabora and Karagara men in payment for their arrows; and the purchasers trade them with the coastal natives for crescent-shaped pearl shell pendants, dugong hide, shell necklaces, and shells for covering the penis. In this way Buji village has always been well stocked with these arrows; and as it was here that Europeans first saw quantities of them, they mistakenly concluded that they were of local manufacture, hence the name.

The Tombukabora and Karagara tribesmen make arrows to order, part payment being demanded when the order is accepted. After the arrows are completed, the purchaser is summoned to come and take delivery of them. If he requires them to be ornamented, he must provide someone from whom can be taken the blood that is necessary for the purpose. If he cannot, and will not submit to the ordeal himself, he takes the unornamented arrows after paying the balance of the purchase price.

Ornamentation that is accomplished by the manufacturer takes the form of a series of his own tribal designs, with intermediate broad red bands. The tribal markings of the purchaser are never used by the manufacturer, as generally he is unacquainted with them.

The Tombukabora and Karagara tribesmen always ornament the bead-pieces of their arrows in the following way:—The designs are marked in black, the preparation for which is a mixture of human blood and powdered ashes. Human blood alone is used for marking the bands. When making arrows for his own use, a tribesman obtains the necessary blood from his own son, or, should he not have one, from his brother's son, or from some other male relative who will submit to the operation. Failing a male, he will take the blood from one of his female relatives. On no account will he sell arrows that are marked with the blood taken from a male relative, as it is capable of being used as a medium for working evil to the person from whom it was drawn. However, he is not so scrupulous about selling arrows that are ornamented with blood taken from any of his women folk, for he believes that a sorcerer—they are always men—would not condescend to harm a woman.

Most of those tribes who are the nearest neighbours of the Tombukabora and Karagara entertain similar objections to selling arrows bearing the blood of male relatives; so only arrows marked in women's blood are sold by them, and eventually find their way to coastal villages.

The Buji arrow is made in three parts. The haft is of reed; the head of a hard, light, and white coloured wood; and the tip, of which the lower end is left to protrude as a barb, is of bone. The femur of both the cassowary and the wallaby is used for making arrow tips.

Sometimes the claw of the cassowary is used. Usually the tip is shaped like a spatula. The ends of the head are rough cones. The one to which the tip is attached is first cut near the top in the form of an ellipse; the bone tip is laid on it, leaving the bottom end protruding clear of the surface of the head-piece to serve the purpose of a barb; the bone tip is fastened to the head-piece by bindings of strong bast, which is afterwards coated with a mixture of shell lime and human blood. The other end of the bead-piece is inserted into the hollow internode at one end of the hasp, and secured in the same way as the tip.

So far, I have been unable to ascertain the origin of using human blood for the purpose of ornamenting arrows, or of the underlying reason for employing it instead of the blood of the wild animals which abound in the country, or red clay. Though the Tombukabora and Karagara tribes have not always lived in the districts they now occupy, I scarcely think that if those who originated the custom lived on the island of New Guinea, they were compelled to use human blood merely

for the reason that a red fluid was necessary for decorating their arrows, as both the blood of wild animals and red clay were available.

In December 1916, I visited the village of Tombukabora, where, I believe for the first time on record, a European was privileged to witness the process of taking blood from a human being for the purpose of ornamenting arrows. A youth submitted himself to the ordeal. He is seen standing in the centre of Pl. K, Fig. 1; and to the right of him is his father. Above the biceps of the youth's left arm, his father tied a loose ligature of bark, gradually tightening it with a number of small wooden wedges (see Pl. K, Figs. 1 and 2). Near by, the youth procured part of the stalk of a growing banana plant and, after crushing it between his hands, washed his left forearm with the juice (see Pl. K, Fig. 1). Meanwhile his father fashioned a rude cup out of a green banana leaf, which he handed to another youth. The father next proceeded to cut his son's left forearm with a piece of shell, drawing the knife downwards along the front of the forearm, while the other youth held the cup beneath the arm in order to catch the dripping blood (see Pl. K, Fig. 2). After sufficient blood had been collected, the youth wiped his bleeding arm with another piece of banana stalk, and then powdered the wound with ashes which he gathered at a fireplace close at hand.

In Pl. K, Fig. 3, the father is seen powdering ashes between his hands, while his brother is in the act of dipping his right hand into the cup containing the blood, preparatory to marking the arrow he holds in his left hand and which rests across his left leg.

Blood for marking arrows may be taken from either arm. I have not heard of it being taken from any other part of the body.

The rough plan which accompanies this article is of that part of the western division of Papua in which the villages above referred to are situated. It also shows many villages to which the arrows find their way from Tombukabora and Karagara in the course of intertribal trading. The trade routes, and the southern limits of the district in which the arrows are made, are also shown.

A. P. LYONS.

Nyasaland: Sociology.

Barnes.

Marriage of Cousins in Nyasaland. *By the Rev. H. Barnes.*

There are points in which the marriage customs of Nyasaland seem 85 to differ from any of those collected and set forth by Sir James Frazer under the heading "Jacob's Marriage" in his work "Folk-Lore in the Old Testament." In drawing conclusions from the wide survey of facts, every fact is of some importance, and so it seems worth while to set down the facts in the case of Nyasaland.

But first it must be stated that the observations that follow relate to only that part of the large area known as Nyasaland which lies between 11° 50' S. latitude and 13° S. latitude, on the eastern shore of Lake Nyasa. This strip of country is inhabited by people calling themselves Wa-Nyanja, and, with the exception of the islands of Likoma and Chizumulu, it is under the Portuguese flag. The people of this area are fairly homogeneous, and in the matter of marriage seem to have the same customs. The observations were made and noted on the spot between 1899 and 1904, when the observer was invalided home.

First let me give the record as it was summarised for a paper read before the Royal Anthropological Institute soon after 1904:—

"THE FAMILY DIVISIONS.—Inside the tribes there appears a sub-division into " what are called '*makamu*,' the *kamu* consisting of all those people who are " related through the female side; and also into '*vilawa*,' the *chilawa* consisting of " all those bearing the same name inherited through the father. Thus an individual " is of the *kamu* of his mother and all those blood relations on her side, but he is

" of the *chilawa* of his father, from whom he received his one and only inseparable name, which name by the way he does not generally use except among intimates or on special occasions. These *chilawa* names are some of them apparently of geographical origin and import, but I have failed to find any native who could tell me the meaning of any of them. The *chilawa* name too is the one that a man repeats with a short thanksgiving when he has sneezed, the idea being that a sneeze is an indication of a blessing from the ancestral spirit on the father's side.

" Politically the people are divided according to their *kamu*, and a man's chief is the head of his *kamu*, not the head of his *chilawa*. The name of the *kamu* also descends to the successive heads of the *kamu*, that is, generally, to a sister's son, not to an own son. A man may not marry one of his *kamu* nor one of his *chilawa*."

So far the record of about 20 years ago. It ought to be added that the term "blood relations on the mother's side" is unfortunate and ambiguous. What is meant is that if there were a *kamu* name that descended from mother to child as the *chilawa* name descends from father to child, then all the people bearing the same *kamu* name would be of the same *kamu* and within the prohibited degrees. There is, in fact, no such *kamu* name held by all the members of the *kamu*—the only *kamu* name is the one which is held by the head and descends from head to head along with the inheritance. It is, in fact, rather a title than an individual name. It will be seen that the effect of this double prohibition is that all marriages of ortho-cousins (i.e., children of two brothers or of two sisters) are excluded.

If you were to ask a Nyanja whether he might marry the daughter of his father's brother or of his mother's sister he would say at once: "No, for they are 'my sisters.'" Here then we have the same result as is produced by the system found in some parts of Australia and Melanesia, and called by Frazer the two-class exogamous system, or the dual organisation. The society of these Wa-Nyanja is one in which inheritance runs in the female line, not in the male, and the only trace of anything like a totem is the *chilawa* name, which comes through the father and does not go with the inheritance. Is this *chilawa* name a survival of an older organisation or is it the sign that foreruns and indicates the coming of a new organisation? The Ba-Bemba (among whom I am writing these notes) have, like the Wa-Nyanja, the matrilineal inheritance, but they have two totem-names, one inherited from the father as in Nyasaland, the other, and more important, inherited from the mother. The comparison of usages over a wide area (for which, see Frazer's "Folk-lore in the O.T.") suggests generally that the matrilineal system preceded the other everywhere and is altogether more primitive. It may be worth while to add that in Nyasaland, whereas 20 years ago it was a difficult and delicate matter to get a native to tell one his *chilawa*, its use is now very common and it is not unusual for the more sophisticated to write it with the English addition of the word "son" after it. Thus James whose *chilawa* is *Mwela* may write himself "James Mwelason," on the analogy of such names as Wilson and Jackson. Again, the Censor of native letters coming into Southern Rhodesia during the war asked me what was the meaning of the name "Pili," which he saw so frequently on letters from Nyasaland that he had begun to wonder whether it were the name of a secret society. I was able to assure him that it was merely a common *chilawa* name, and that it happened to be one with a clear meaning, "hill," common not only to one small tribe (such as those among whom these observations were made), but to a number of tribes spread over a wide area. This more common use of the *chilawa* name is partly, no doubt, due to the conscious following of English custom in the matter of the surname, and I am unable to say to what extent it has spread outside the circles of natives under English influence. Anyway it marks the dying down of the old objection to telling the *chilawa* to a stranger, and of the superstitious

fear of the harm that might come through putting a possible enemy into possession of the only inalienable name, with all that in the primitive mind hangs to the name.

The result of this system is the prohibition of all marriages between ortho-cousins. The individual stands as it were in the intersection of two circles, from either of which he is forbidden to take his wife. It is not, as with the two-class exogamy, that society is divided into two exogamous classes and a man must take his wife from one of these and not from the other. There is a wide field of choice and the law simply restricts by *exclusion*. The law does not say to a man: "You must take a wife from such and such a clan." It says only: "Take your wife where you like except in the two circles of those possessing your *chilawa* or belonging to your *kamu*." One of these circles consists of people distinguished by the possession of a name like a totem name. The other and more closely associated circle of people has no distinguishing name. It seems reasonable to guess that in a matriarchal society the relations on the father's side would be less known and therefore more in need of some distinguishing name than the closer relatives of the mother's side, and this may have necessitated the use of the *chilawa* name. A man might inadvertently marry one of his *chilawa*, but could hardly make a mistake about the members of the *kamu* to which he belongs, and with which all his family interests are bound up.

Frazer's conclusion is that it seems probable that the widespread custom of cross-cousin marriage might everywhere be traced back to the practice of exchanging sisters and so referred for its origin to the economic motive. Admittedly this explanation fails altogether to explain why the same economic motive did not also bring about the marriage of ortho-cousins, and so another cause may well be looked for. Where can we look? What natural universal fact may suggest a reason for the whole of the facts? In the Nyasaland case we want a reason for the twofold exclusion which produces the same result as the "dual organisation" found in Australia. Do not the facts suggest an explanation which covers the Nyasa case, and may cover more? The M'Nyanja is forbidden to marry any one of his *chilawa* and also any one of his *kamu*. What are the *chilawa* and the *kamu*? They are the two circles of those with whom he is linked through (i) his father and (ii) his mother. As soon as paternity is recognised and acknowledged there you have for every child a twofold link, to the father's side and to the mother's side, which is a natural universal fact. The people to whom one is akin fall naturally into these two classes, and suggest at once a rule of exclusion of the two sets of kindred. This would seem to suggest that the root of the custom which allows marriage of cross-cousins and forbids the marriage of ortho-cousins may lie rather in an aversion to the marriage of near kin than in the economic motive.

Moreover, the economic motive suggested is inadequate, not only as failing to explain all the facts, but also on its own ground as merely an economic motive. It is true that the marriage of cousins provides a cheap way of finding wives for the males of a family. But it does more! It is a way of throwing away the wealth that comes from the marriage of the females of a family. Thus it cuts both ways. The primitive mind is just as conscious of the loss of potential wealth as of the saving effected by the method of exchanges. It must be remembered that there are two parties to a marriage arrangement and that in the marriage of cousins the saving is all on the side of the male and his family. Even where, as is only sometimes the case, there is an actual exchange of females, and you might expect them to cry "Quits!" and be content, I think it is more in accordance with nature, at any rate in Africa, to make the actual customary payments even though they exactly balance.

H. BARNES.

Great Britain: Archæology.

Vulliamy.

Excavation of a Long Barrow in Breconshire. By C. E. 86
 Vulliamy, F.R.G.S.

Just over a mile and a half north-east of the village of Talgarth in Breconshire, on a foothill of the Black Mountain range, there is a most remarkable, if not unique, group of three tumuli. These tumuli are on land belonging to the farmstead of Ffostill, and are in a field within a short distance of the farm buildings. They are situated slightly above the 1,000 feet contour-line.

Without describing minutely the relative positions of the mounds, it should be explained that all three are roughly in alignment N.E.-S.W., occupying a space of less than 150 yards in length. The central and southern ones are long barrows of impressive dimensions (reputed the largest in Wales). The axis of the central barrow points 87° of true north, and that of the southern one 21° —a curious instance of apparently random siting. As for the third tumulus, it is a small mound of irregular plan (32 by 29 feet), bearing some external resemblance to burial-places of the Bronze Age.

I carried out an excavation in this latter barrow, and found that it was built of sandstone blocks and contained much earth, deposits of unctuous charcoal, fragments of calcined bone, and flint flakes.

The two long barrows have been disturbed at various periods. Great quantities of stone have been removed from the southern one for rural requirements, and the kist or passage-chamber of the central cairn has been deliberately rifled at an unknown date. After an examination of the southern barrow I was convinced that the principal kist had not suffered from depredation in modern times, and I decided to see what might be revealed by the methodical use of pick and spade. In this scheme I was assisted by a local antiquary, Mr. A. F. Gwynne, who co-operated with me in

the work, and to whose arduous labours we owe no small degree of our success.

It will be necessary to describe the main features of the barrow.

Closely resembling the central one in size and plan, this barrow, or cairn, is constructed of slabs and blocks of red sandstone—of which material it must contain many thousands of tons. The plan (Fig. 1) in outline is oddly suggestive of a short, broad stone celt. It is 108 feet long; about 68 feet across the broadest end; and 46 feet at the lower (southern) extremity. The present greatest height above assumed ground-level is about 10 feet.

The burial-chamber is placed in the centre of the broadest and highest portion

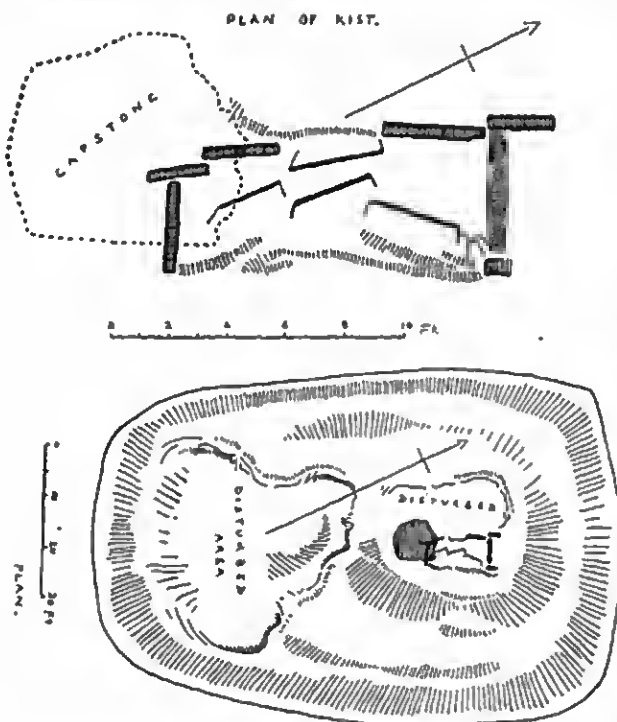


FIG. 1.

of the mound, the northern terminal stone being 25 feet from the northern edge of the cairn. Pushed away from its original place, the capstone lies tilted on the face of the mound—it is a flat slab, measuring $8\frac{1}{2}$ by $7\frac{1}{2}$ feet.

I will now summarise the results of the excavation.

We found, as might have been expected in view of the displacement of the capstone, that the chamber and its contents had been disturbed; but not in recent years. One side had partially collapsed inwards, and the resulting inclination of the slabs made our work not only difficult but somewhat risky. By inserting key-stones we were able to prevent further collapse. The slab which forms the sides and terminals of the chamber are remarkably well trimmed, and rather unusually tall in proportion to their width. They measure

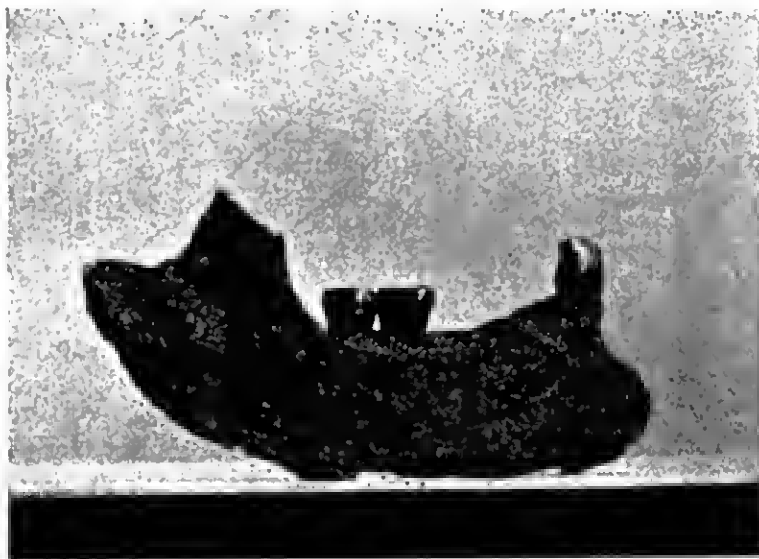


FIG. 2.—MALE LOWER JAW FROM THE BURIAL CHAMBER (FPOSTILL).

from 2 feet 4 inches to 4 feet 2 inches in breadth, from 5 to $6\frac{1}{2}$ feet in depth, and from $4\frac{1}{2}$ to 8 inches in thickness. The length of the kist is 11 feet, and its breadth from 3 feet 8 inches to 4 feet. Blocks and laminated fragments of stone filled the interior, so placed as to leave fairly large interstices between them. There were no traces of earth.

The first fragments of bone that I picked up was found during the early stages of the excavation, at a depth of about 1 foot below the level of the soil. It was a calcined fragment of the thigh-bone of a youth. We found a considerable number of other calcined portions of bone on the same horizon, mostly the remains of domesticated animals, but including parts of the skull of a very young child.

At a depth of 2 to $3\frac{1}{2}$ feet (but not lower) we found human remains in abundance throughout the entire length of the kist. The bones were nearly all in a badly broken condition, and were seldom lying in anatomical relation to each other: in many cases they were tightly wedged between blocks of stone, and their removal was a tedious and delicate process. None of these primary burials had been touched by fire. About 600 bones, teeth, and fragments were collected and removed for examination. The remains were those of not fewer than nine individuals, some of them exhibiting features of very considerable interest.

I found, after their removal, that many of the fragments could be pieced together, and I gave the best specimens to the Museum of the Royal College of Surgeons. Sir Arthur Keith has examined carefully these specimens, and has furnished me with an admirable report. He finds that the cephalic index of the most interesting skull is 70: the skull is that of a man about 40 years of age, with "a very narrow, relatively high, and rather small head." It is nearly 20 mm. narrower

than previously recorded Neolithic skulls from Wales. Among the lower jaws is that of an old woman who "must have had a face cast in a small, almost delicate, mould." The so-called "squatting facets" on the astragals are strongly marked, indicating the habitual adoption of the squatting posture. The bones show the crisp, earthy texture, and in some cases the dark surface-impregnation (known as "manganese stain") which is characteristic of remains of ancient date.

A relatively small number of bones other than human were found both in the superposed calcined stratum and among the chief interments. The animals thus represented are pig, ox, goat, and cat.

Three pieces of flint were found within the kist, and the most careful sifting revealed no other grave furniture. The pieces are unshaped fragments, one of which has been subjected to intense heat.

Quantities of flint flakes and occasional implements (scrapers) are scattered over the field in which the tumuli are situated, and over other fields in the vicinity.

C. E. VULLIAMY.

NOTE.—I have since made another excavation, outside and immediately above the northern terminal slab. This has revealed (1) quantities of burnt earth and charcoal, (2) the cremated remains of a child about six years of age, (3) some of the metatarsal bones of an adult, (4) most interesting of all, the tibia of a 7-months' human foetus, (5) unburnt bones of goat, sheep, a small horse, a small ox, and a young dog (?), (6) 16 pieces of calcined flint, and (7) fragments of rough pottery—impure clay mixed with grains of quartz.

C. E. V.

India: Sociology.

Rose.

Legitimation and Adoption in Hindu Law. By H. A. Rose.

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While the Hindu lawgivers had many concrete terms for sons made by the various forms of adoption, they had no abstract term for the process itself. Hence in "adoption" in Hindu Law have come to be included many processes which are not, strictly speaking, adoptive at all. Similarly, our one abstract term, "adoption," has to do duty for more than one process, and in dealing with each of those processes it requires careful qualification.

In primitive law it may be conjectured that legitimisation precedes adoption. A man with no fully legitimate sons might be permitted to recognise an incompletely legitimate son as his heir, provided his paternity were not open to doubt; and, by degrees this concession might develop into "adoption" in its widest sense. Hindu Law is, to say the least of it, even now very averse to the adoption of a complete stranger in blood. It is only when religious adoption is in question that the latent fiction, that the adoptee is a conceivable heir, seems to be dispensed with.

Hindu Law has no term for legitimisation. Nevertheless, Manu recognises its legality; but only with reluctance. The son begotten by a Sūdra on a female slave or slave's female slave may, if permitted (by his father), take a share of the inheritance: IX, § 179. Kullūka interprets this to mean a share equal to that of a legitimate son, in case the division is made in the Sūdra father's lifetime. Presumably then the Sūdra could allot less than a full share to a son so legitimised, and Yajñavalkya (Medhātithi) only assigns the latter half a share on a partition not effected by the father. Nowhere does Manu seem to provide for the case of a slave's son begotten by a man of one of the three higher castes. In Hammurapi, a man who had sons by a wife and by a hand-maiden could make the latter's sons almost fully legitimate by calling them his sons: Jastrow, "The Civilisation of Babylonia and Assyria,"

p. 395.* *Manu* does not contemplate the legitimisation of a son begotten on a woman of equal caste and subsequently married by her paramour; indeed, by implication, he disallows it: IX, §§ 172-3. *Hammurabi*, too, is silent on this point.

In the Code of *Hammurabi* adoption is allowed, but the limitations put upon it are not yet clear. Sonlessness was certainly not always an essential condition of the right to adopt. A girl might be adopted and given in marriage, but it is not clear that she thus became the heir of her adopter. All that is certain is that she could be secured in the possession of gifts made to her by her adoptive parents. A slave could be adopted, but, apparently, only on conditions, such as an undertaking to support the adopter, and a breach of the covenant entitled him to rescind the adoption. Yet we read of a stepson's adoption being successfully objected to by an uncle on the ground that it would divert the property into the hands of strangers.† But once a permissible adoption had been formally made it seems to have made the adopted son the full heir of his adoptive father. At least he ranked as a son (until and unless his adoptive father afterwards married and had children, in which case the adoption only gave him a right to a third of a son's share in the household gear), and, presumably, inherited as a son, though this is not expressly stated. But

* Read with S. A. Cook, "The Laws of Moses and the Code of Hammurabi," p. 140. Yet in quite recent Indian custom, legitimisation by subsequent marriage is not unknown. Among the *Manhās* and other tribes of *Rājput*s of a tract in the sub-Himalayan plains of the Panjāb, a natural son begotten on a woman whom his father might have married (meaning, doubtless, a woman of the *Rājput* caste) is made legitimate by his mother's marriage to his (deceased) father's brother. It is not expressly recorded that the mother's marriage to his own father would legitimise him, but the presumption is that it would do so—a *fortiori*. The custom is not very precisely recorded, but it is distinctly stated that the mother's marriage gives her son a right to succeed "equally with the legitimate sons": Amin Chand, "Hist. of Sialkot," translated by (Sir) C. A. Roe, p. 73. If the deceased's brother does not marry the son's mother she is called a *bothal*, "a widow who has remarried" (cf. Sanskr., *punarbhā*, "a remarried woman"). While if he does marry her she is termed a *dhuāl* (Panjābī, *udhāl*), which denotes a wife who has been obtained by abduction, and must apparently rank above a *bothal*.

† As often occurs in primitive codes, the common laws, which everyone knows, are not enacted, only hard cases being dealt with. In § 185 of the Code it looks as if the phrasing:—"If a man has taken a young child 'from his waters' to sonship, and has reared him up, no one has any claim against that nursing," meant that, where there had been a formal adoption the "child" adopted passed completely into the *potestas* of his adopter, and so became in law his son. Indeed, Scheil and Winckler substitute "with his name" for "from his waters." This suggests that the adopted child took his adopter's name, or was given a new name, but no such usage is recorded. It would seem that such an adoption was reduced to writing in a tablet which secured his rights as long as the seal was unbroken: Cook, *op. cit.*, p. 133. But this surely does not mean that the adopter could revoke the adoption by merely breaking the tablet or its seal. Contract tablets were deposited in temples: "Mesopotamian Archaeology," Handcock, p. 105. It seems, then, permissible to conjecture that adoption tablets were similarly deposited, and that the adoption could only be revoked by a court, just as a son could only be disinherited by a judge: Cook, *op. cit.*, p. 136. It may be then that the Code is quite consistent with itself. The adoption contract of the New Babylonian period, cited by Cook, *op. cit.*, p. 131, is on a broken tablet, and the facts are by no means clear. An uncle (whether paternal or maternal does not appear) had adopted his nephew, *Bel-kāsir*. *Bel-kāsir* married a widow with one son, and proposed to adopt the boy. The adopter being still alive, and possibly having some authority over his adopted son, objected that this second adoption of a stepson would bring a stranger into the family. Presumably, then, *Bel-kāsir* had been adopted by his paternal uncle. The latter insists on the adoption of *Bel-kāsir*'s (own) brother, i.e., of his other nephew. But the matter does not seem to have been taken into court, and we cannot be certain that the uncle was under any restriction, or that he could have got *Bel-kāsir*'s adoption of a stranger in blood set aside by an action at law. The uncle may have had a good right to adopt a stranger and none at all to object to *Bel-kāsir*'s doing so. On the other hand, the so-called adoption of a slave does prove that anyone could adopt a stranger in blood. The arrangement made was really equivalent to buying an annuity, as the slave was to maintain his adoptive father in return for his adoption. In the New Babylonian tablet cited by Cook, *op. cit.*, p. 132, n. 2, does the master simply break the seal, or get it broken by the court?

it may be that adoption was informal as well as formal, or secured by a registered tablet in some way, and that when there had only been an informal adoption the adoptee had the right to cancel it by "returning to his (natural) father's house"; if he were not "numbered" among the sons by some hindling formality: § 190 of the C.H. read with § 185.

So far from the adoptee being deprived of all say in the matter, even a young child longing for its own parents, or rebelling against its adoptive ones, "shall" (? may) return to its father's house: Jastrow, p. 304, and Cook, *op. cit.*, p. 133, n. 1. On this view § 186 of the Code does not "modify" § 185, but supplements it. No one has any claim to cancel an adoption formally made or ratified, but the adoptee himself may repudiate it. On one very important point, however, the Code is quite silent. What was the effect of the adoption on the adoptee's rights of inheritance in his own family? Nothing is laid down on this question, and one can hardly speculate upon it. It only remains to note that apprenticeship was a form of adoption, but here, again, failure to teach the apprentice his handicraft gave him the right to repudiate his adoption and return to his father's house: § 189, C.H.

The text of Manu, as we have it, is patently defective. He gives the names of the various "sons," with their definitions, in the following order:—

- (1) Aurasa, the legitimate son.
- (2) Kshetraja, the son begotten on the wife under the peculiar law of the *niyoga*.
- (3) Dattima, the son, of equal caste, given by his actual parents in adoption in time of distress, but with a ritual oblation of water.
- (4) Kritima, the son, also of equal caste, of good morals and filial virtues, "made" by his adoptive father.
- (5) Gūdhotpanna, the son "secretly born" in a man's house, but affiliated to the husband of his mother.
- (6) Apavidhha, the son deserted by his own parents but received by his adopter.

IX, 166–171, give these lucid definitions, and § 158 lays it down that only these six sons are kinsmen and heirs, the following six being only kinsmen, but not heirs:—

- (vii) Kānīna, the son of an unwedded damsel belonging to him who marries her.
- (viii) Sahoḍha, the son of a bride pregnant at the time of her marriage, belonging to him who marries her.
- (ix) Kritaka, the son, whether equal or unequal (in good qualities), purchased from his parent.
- (x) Paunarhhava, the son of a "widow," who remarries, affiliated (presumably) to the man who remarries her.
- (xi) Svayamdatta, the orphan or unjustly abandoned son, who gives himself to an adoptive father.
- (xii) Pārasava, the son of a Sūdra woman by a Brahman, and so (presumably), excluded from inheriting.

But IX, § 180, says:—These eleven, the son begotten on the wife (i.e., the Kshetraja), and the rest . . . , the wise call substitutes for a son, taken in order to prevent a failure of the funeral ceremonies.

The meaning of this probably is that the first six "sons" are always to precede kinsmen, while the last six or five are postponed to them, though this is not stated; all that is said being that on failure of each (better) son, each next inferior (one) is worthy of the inheritance; sons of equal rank sharing equally *inter se*: § 184.

It will be noted that there is no real distinction between the Kānina and the Sahodha, and that neither of these two are legitimised even when the father who marries the unwedded damsel is of her own caste. Subsequent marriage alone, therefore, never legitimises a child born before wedlock. The exclusion of the Svayamdatta and the admission of the Apavidha may seem capricious, but the probable explanation is that the former is adopted by the adopter, while the latter merely attaches himself to a man who only succours him on his abandonment by his own parents, and does not do any act evincing an intention to adopt him. The son bought is doubtless excluded in order to discourage the sale of children in times of distress, whereas the Datrima who is not purchased is admitted. The libation of water *may* symbolise the unmercenary character of the transfer. The same feeling is exemplified in the condemnation of the sale of a daughter in marriage. As already indicated the principles of affiliation and adoption are confused, but adoption stands on a far higher plane than affiliation. The Kshetrāja is in a sense adopted by a kind of anticipatory levirate, and the Gūdhotpanna is only inferior to the Kshetrāja in that in his case the *niyoga* (or "Leviratsehe," as Jolly renders the term*) is not exercised with the express consent of the husband, but only with his implied assent. In IX, § 167, we must read into the text words limiting the husband's choice of a substitute to a brother, or at least a near kinsman: cf. IX, § 59 ff. Similarly, in § 170, the words "in the house" in all probability meant "begotten by one of the household" or "by a near kinsman." The commentators, however, only say that there must be no suspicion that the wife had intercourse with a man of lower caste, or that the case contemplated is one where the wife has had intercourse with several men of equal caste, i.e., of her husband's status. S.B.E., XXV, p. 362, n. on § 170.

Then, after all, Manu proceeds to retract all that he has laid down about affiliation by declaring that sons begotten by strangers belong in reality to him from whose seed they sprang, but not to the other man who took them: IX, § 181. This, too, summarily refutes the doctrine, elaborately expounded in §§ 49-56, that the paternity in a child vests in the owner of the mother, while § 51, which says that those who have no marital property in women only benefit their owners, lets in the principle that a man who marries a woman who has children fatherless in law, *acquires* the legal ownership in, or paternity of, them. On this principle the Kānina and the Sahodha would be the legitimate sons of the husband, a principle stubbornly fought for in the customary law of modern India.†

* "Grundriss der Indo-Arischen Philologie, Recht und Sitte," p. 47.

† E.g., in the Panjāb the modern equivalents for the Sahodha are *nāmar* and *parkhat*; While the *pelar*, *gadhelrā*, or *pichhlag*, is the son born of a woman, not necessarily unmarried, and taken by her into the house of his stepfather. A very sharp distinction appears to be drawn between the *pichhlag* and a child *en ventre sa mère* at the time of her second marriage, but in the more backward tracts, such as the Himalayan area, a man who purchases a wife will stoutly contest his right to any unappropriated child she may possess. Paraphrasing Manu, IX, § 50, the Hindu hillman would say:—"When I purchased the mare, I bought also the colt running beside her, and if the vendor did not mean to sell the colt as well it should have been expressly excluded from the sale." In this tract again there is a curious extension of this principle. The widow of a peasant or lower caste may take a consort to live with her, and a son born to them is called a *gabhrā*, *riandhā* (or *chauhhandu*), the latter term meaning one "born within the four walls" of the deceased husband's house. The term *riandhā*, or *rondā*, means simply "son of a widow," and no doubt connotes some degree of contempt. But such a son is affiliated to the stepfather who had died before he was born and inherits his property. The real father would usually be a man of the widow's caste, or at least not of a lower caste, but it is not expressly recorded that inequality of caste would disentitle the son to succeed. Still, the consort is styled *konsal*, or *linda*, the latter term meaning "one who has no home," and, obviously, implying contempt: Rose, "Compendium of the Punjab Customary Law," Lahore, 1910, pp. 113-17; "Mandi State Gazetteer," *ib.*, 1904, p. 23, and "Chamba State Gazetteer," *ib.*, 1904, p. 128. Other local names for the *chauhhandu* are *banjhārā betā*, *jherā betā*, and *dhagnohrā*; but none of these are explained or throw any light on the ideas underlying the usage.

But Maine's view was that the levirate was only one form of the *niyoga*: "Early Law and Custom," p. 100. To be quite accurate it was an usage which ought to be very sharply distinguished from the levirate. In the *niyoga* there was no remarriage of the widow. Her function was to raise up a son and heir to her husband under the strictest conditions: Manu, IX, §§ 59, 145 and 146; even the exception in § 149 "proves" the rule. But in the levirate she had precisely what she had not in the *niyoga*. She was permitted to *remarry* a brother-in-law, and probably had no option but to do so. And on his part the brother-in-law was under a strong social obligation to espouse her. But the remarriage, if it took place, had no imperative result, in that the first-born son of it was affiliated to the deceased husband, and could he in nowise appropriated by his *de facto* father. Manu, on the contrary, simply hastardises the son of a remarried woman as a general rule, or, if he recognises his legitimacy, makes him the lawful son of his mother's second husband. No Hindu lawgiver ever contemplated the affiliation of such a son to her first husband. Hence Jolly's rendering of *niyoga* by *Leviratsehe* is doubly unfortunate, because in the *niyoga* there was no *Ehe*, or remarriage, at all, and if there was remarriage of a widow there was no affiliation of her son by it to her first husband. It is not enough so say, as Mr. Chattopadhyay does in MAN, 1922, § 25, that:—"Niyoga, strictly speaking, differs from the leviration in the limits imposed on "connection with the widow after the birth of one or two sons." It differs from it fundamentally in affiliating the son (and Manu says that a second son would be illegitimate: IX, § 143) to the first husband. Leviration in its strict sense, as connoting the surrender of the first-born or only son of the remarried widow to the deceased husband, is entirely foreign to modern Indian custom, at least in the Panjab. Only once, in 29 years' service, did the present writer come across an apparent case of it. In that case a grandfather had three sons and some grandsons, but one of the sons died sonless. His widow remarried one of the other sons, and the grandfather then divided his land into three portions, allotting one to her son by her second husband, so that the name of his dead son might not be put out. But this disposal of the land was probably set aside by the courts as contrary to Panjab customary law.

(To be continued).

REVIEWS.

Africa: Linguistics.

Johnston.

A Comparative Study of the Bantu and Semi-Bantu Languages. Vol. II. 88
By Sir Harry H. Johnston. Oxford: Clarendon Press.

Here we have the comparative and synthetic work needed to complete the task of which the vast mass of material accumulated in Vol. I. formed the first half. Of the value of this material to philologists there can be no question. With some of the conclusions deduced, it is possible to disagree. The discussion of disputed points thus (one hopes) to be evoked can only further the progress of knowledge.

The chapter on Phonetics—one of the most controversial—may be left for treatment in other quarters, only remarking, apropos of the statement that the voiced *th* sound (ḏ) "is much less frequently met with" than the voiceless (in this notation *t*), that precisely the reverse is said by Mr. Ruffell Barlow to be the case in Kikuyu; and this coincides with my own very limited observations, as far as they go. In Herero, too, the voiced sound seems as common as the voiceless—if not more so. In Makua, one of the few other languages in which this sound is recorded, it is at least a question whether it is not really a strongly aspirated dental *t*.

We may, perhaps, permit ourselves some desultory comments on the remaining chapters, recognising that a full discussion of the questions involved would require

a volume at least. First, with regard to the prefixes and concords to which Chapter IX is devoted: in suggesting "zizi- or titi-" as the original form of the tenth prefix, the author ignores the *n*, which is certainly one of its constituents (where this is absent, as in Ronga *ti-homu* = *izin-komo*, it has dropped out in accordance with well-understood phonetic laws). Meinhof's suggestion that the original form of this prefix (without the "preprefix") was *lini-* receives some support from the case of Sesuto and Sechwana, which appear to stand alone in this respect (*n-ku* 9 "sheep," pl. *li-n-ku* 10. This prefix is written *di-* by Sir Harry Johnston; but, though so pronounced, it is clearly, by origin, *li*).

We should doubt whether *ti-*, *ci-*, *ji-* (p. 231) are really forms of the 12th (*tu-*) prefix. *Ti-* has taken the place of *tu-* in Chinyanja, but the presence of such words as *tulo*, *tubsi* in the same language (with others which seem to be merged in Class 5 those mentioned keep their own concord: *tulo tache*, etc.) suggests that it may be a distinct class, just as we have both a *lu-* and a *li-* class. Whether it is identical with Sir Harry Johnston's No. 22 (*ti-*, *te-*) is another question. It seems to me far from certain, moreover, that *tulo* and *tubsi* are diminutives: why should not *tu-* have more than one function, as well as *ka-* and *ki-*? In the case of *ka-*, it surely seems more probable that it—or a different prefix afterwards assimilated to it—should have denoted a distinct class, than that it should have become, first an honorific and afterwards an augmentative.

The diminutive suffix *-ana* raises a very interesting question. Sir Harry shows its distribution to be much wider than was generally thought to be the case; while it seemed to be confined to the Zulu, Chwana and Thonga groups of dialects, it was possible to attribute it to a cross-current of outside influence, affecting the general prefix-tendency of the Bantu languages. If, however, it "is very characteristic of the Bantu generally, and penetrates north-westward to . . . Fernandian," the matter takes on a different complexion, and the stray traces of this suffix in Swahili become less anomalous than seemed to be the case. For we apparently have this suffix in *kitw-ana*, "a slave-lad," (literally "a little head"—one thinks of the so-called "tribute of heads," really of slaves, once exacted by the chiefs of Shaka from the Pokomo tribes)—and *mngwana*, "free man"—a word with a curious history. It would seem to have been originally used of the coast people by the inland tribes whom they reached on their trading journeys, and who were so impressed by their superior civilisation as to call them "little gods" (*Mulungwana*, from *Mulungu*). It is a little difficult to grasp the connection between this and the reciprocal verbal suffix *-ana*, "to which it is obviously allied." Where is the warrant for saying that this suffix indicates "reciprocal or diminishing action"? There is no hint of this in the section of Chapter XV (14 f) to which we are referred.

In this same Chapter XV one is surprised to find the reflexive particle included among "suffixial terminations to the verb-roots—extending or modifying the meaning of the verb"—or, in other words, among what are usually called the Derivative Forms of the verb. It surely stands on quite a different footing, being an object-infix, like any of the objective personal pronouns. "Reflexive . . . suffixes added generally to the verb-root" can hardly be accepted as a description including the termination *-ata*. The reference to 75 (Xosa, Zulu, etc.) indicates that verbs like *ambata* "put on" (clothes) are meant. This, if it stood alone, might possibly be taken as reflexive in the sense of "clothe oneself"; but we have, in Nyanja, *fumbata*, "grasp;" *kumata*, "sit with the arms folded;" *tangata*, "help," and in Swahili, *kamata*, "catch." The function of the suffix is not very clear; but perhaps, as Meinhof suggests, it implies some notion of gathering together. *-ata* is also included under the "stative" suffixes (14 f) (where it may be meant to cover the verbs just mentioned), as though it were identical in function with *-ama*—which we may be permitted to question. Another somewhat doubtful point is the inclusion among

these "Derivative Forms" of "Adverbial" suffixes (such as *-po*, *-ko*, *-mo*, etc.) which do not form verbs capable of being conjugated, as do the true derivative suffixes.

However, these strictures are apt to seem ungracious in face of the enormous services rendered by a work like the present, which brings to the notice of students some two hundred languages and dialects previously quite unknown. The author, no more than his predecessors, supposes his work to be final—but the provision of such a mass of material for other workers is indeed an achievement worthy to crown the labours of a lifetime.

A. WERNER.

PROCEEDINGS OF SOCIETIES

Anthropology.

British Association.

British Association for the Advancement of Science. Hull Meeting, 89
September 6-13. *Proceedings of Section H (Anthropology).*

Section H (Anthropology) met in the Royal Institution under the presidency of MR. H. J. E. PEAKE. In his address to the Section, with which the proceedings opened, the President dealt with the "Study of Man." He reviewed briefly the advances in the study of anthropology and in anthropological method during the last eleven years, and, after defining the scope of the science, urged that the time had now come when anthropologists might pay greater attention to the study of the more civilised peoples, particularly in China and the Far East, India and the European region, urging the establishment of a School of Research in India similar to the existing schools of archaeology at Athens and Rome.

With some notable exceptions, the communications presented to the Section did not reach that level of interest which is customary, while one or two were undoubtedly too technical for a general audience. It is also to be noted that there was a serious falling off in the number of ethnographical papers which have hitherto contributed largely to the success of the proceedings.

In *Prehistoric Archaeology* first place must be given to the important discussion on "The Relation of Early Man to Phases of the Ice Age in Britain," which was held in a joint session with Sections C (Geology) and E (Geography). The discussion was opened by MR. PEAKE, who gave a summary of his views on the question which have already appeared in MAN.* He was followed by PROFESSOR W. J. SOLLAS who, in an admirable summary of the French and German views on the Glacial question, maintained that the Ice Age in Britain could not be studied apart from the Continental evidence. Penck's conclusions, which, as he showed, could be brought into harmony with the views of French Geologists, made it clear that there were four periods of maximum glaciation and that in relation to these, while Mousterian times straddled the Würm, Aurignacian and subsequent cultures must be regarded as post-Würm. On the other hand, PROFESSOR KENDALL and PROFESSOR P. H. G. BOSWELL maintained the view that the British evidence must be considered by itself. The former, indeed, held strongly that East Anglia must be treated as a unit, and that it held the solution of the problem. Only when the situation had been made clear there would it be possible to bring it into relation with the evidence from the Thames Valley. PROFESSOR BOSWELL indicated how the evidence from East Anglia had narrowed the issue down to the question whether the gravels containing Chellean and Acheulean implements were to be regarded as pre- or post-boulder clay, a question which an attempt was being made to answer by excavation; but the results were unfortunately not available in time for this

* MAN 1922, 5.

meeting. PROFESSOR H. J. FLEURE said that it was impossible to consider conditions in Britain, Scandinavia and the Alps apart. Any advance of the ice in one area must influence climate and ice-distribution in the others. There was evidence to show that the belt of desert in the Sahara lay further south than at present. It was probable that man drifted north from the Sahara as climate improved after the Würm period, and that from Aurignacian times there had been no break in continuity. MR. HAZZLEDINE WARREN denied the possibility of correlation with the Continental data. The Palæolithic terraces were conformable with the Holocene alluvium, but how could this be the case after a glacial period which would have modified the surface conformation? He held that there was a gradual but continual culmination from the Chelles period to the Magdalenian period. MR. PALMER described certain investigations on the South Coast made by himself and a geologist. They had attempted to establish a sequence of strata in relation to climatic oscillations, and also the relationship of types of ungraded flint implements to these strata without reference to nomenclature of periods. On bringing their results into relation with the Continental system of Penck, there appeared to be complete agreement.

MR. J. A. DAVIES and MR. E. K. TRATMAN described the results of recent cave explorations carried on by the Spelæological Society of the University of Bristol. The former dealt with the finds from Aveline's Hole, Burrington Combe, which included three dolicocephalic skulls with broad faces, considered to be a modified Crô Magnon type, worked flints, of a late Aurignacian or early Tardenoisian industry and several bone implements and a staghorn harpoon of the period Magdalenian 6 B. MR. TRATMAN described the exploration of Read's Cavern in the same district, which had produced artefacts of iron, bronze, bone, stone, and pottery, the last-named bearing designs typical of the Iron Age. MISS NINA LAYARD described a discovery of a prehistoric cooking place at Buckenham Tofts Park, Norfolk, apparently of the early Bronze Age. LORD DUNSANY described a series of worked flints found by himself in the Sahara, and MR. H. W. SETON-CARR also described implements of a similar character from North Africa. M. LE COMTE DE ST. PÉRIER, who attended the meeting as a delegate of the French Association for the Advancement of Science, discussed the Unio and Anodonta of prehistoric stations, calling attention to the fact that while these mollusca occur in early neolithic sites they do not appear in palæolithic sites, and described a recent find, in the South of France, of a statuette of a steatopygeous female in ivory, comparable to those of Brassempouy, etc. An important communication by DR. CYRIL FOX dealt with the distribution of population in the Cambridge area, with special reference to the Bronze Age, and shewed its relation to the distribution of forest land in early times.

A whole morning session was devoted to the discussion of matters of local interest. This opened with the exhibition by MR. LESLIE ARMSTRONG of the two bone harpoons recently described in MAN.* In a somewhat heated discussion which followed MR. T. SHEPPARD openly questioned their authenticity, and MR. O. G. S. CRAWFORD, while inclining to support their claim to antiquity, wished for further evidence to substantiate the date claimed for them. MR. W. G. COLLINGWOOD analysed Tenth Century Art in the Danelaw, demonstrating the gradual supersession of a debased Anglian art by an Anglo-Danish style of ornament; and PROFESSOR A. MAWER dealt with the place-names and ethnology of the East Riding, where he finds that place-names are almost exclusively English or Scandinavian. A group of papers which were suggestive in their bearing upon general problems of European archaeology dealt with the Mediterranean area.

* MAN, 1922, 75.

MR. S. CASSON gave an account of further excavations at Chauchitza in Macedonia, and MR. J. WHATMOUGH described some recently discovered fragments of stag's horn from North Italy. The inscriptions are in a language which is neither Venetian nor Etruscan, but may be Indo-European. Their evidence would appear to strengthen still further the suggestion of the northern origin of Artemis. DR. T. ASHBY dealt with his supplementary excavations at Hal Tarxien in Malta, which fully supported Professor Zammit's conclusion that the large sanctuary of the megalithic ruins is of three different periods, as shown by excavations of the respective floors. DR. ASHBY also reported on recent archaeological discoveries in Italy, which include further discoveries at Ostia of great interest for the study of Roman domestic life, and on the site of Horace's Sabine farm. MR. CASSON described three remarkable bases of statues found at Athens, the sculptures on which represent games of the Athenians hitherto unknown.

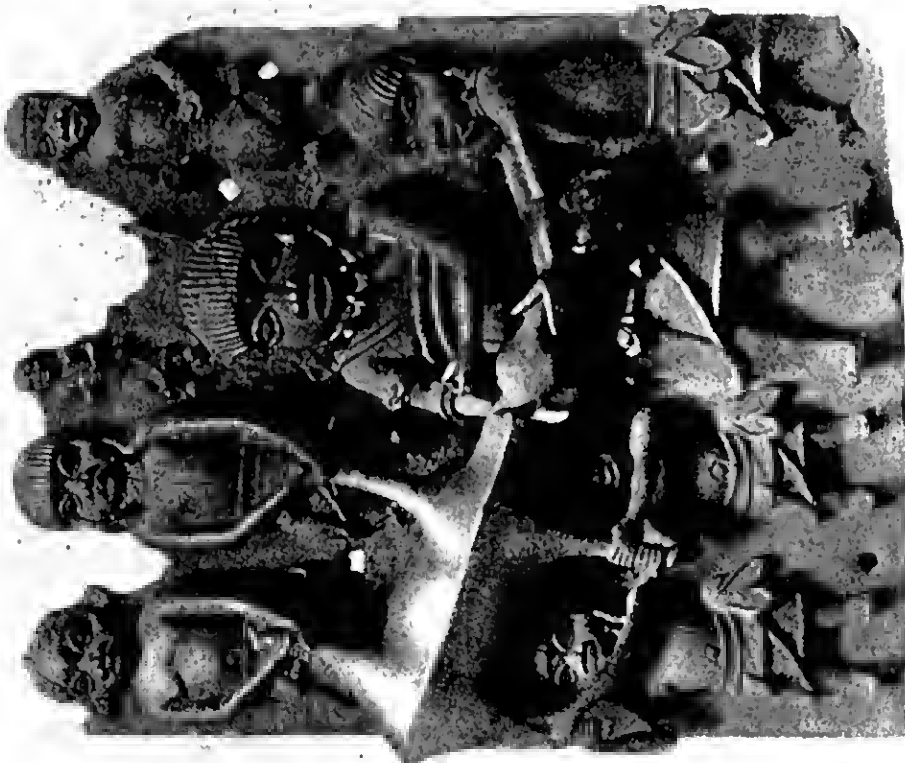
Two ethnographical communications only were presented to the section. MR. E. TORDAY dealt with the mutability of custom among Congo tribes, and gave numerous examples, well illustrated by lantern slides, of exchange of custom among neighbouring tribes, notwithstanding the occurrences of a remarkable conservatism among some of them. A communication presented on behalf of Dr. W. Marsh Strong described a series of rock drawings from New Guinea.

In *Physical Anthropology*, PROFESSOR W. J. SOLLAS described a new method in comparative craniometry and its application to Neanderthal man. The method is based upon finding the centre of gravity of a diagram of the skull, through which horizontal and vertical lines pass. Bisection of the resulting angles at the centre of gravity divides the skull into sectors, which can be used, it is claimed, for both accurate description and comparison.

A discussion on mental characters and race, which was opened by PROFESSOR J. L. MYRES, took place in a joint meeting with Section K (Psychology), in which Dr. C. S. Myers, President of Section K, Mr. H. J. E. PEAKE, DR. CYRIL BURT, and others took part. An extended report of this discussion will appear at a later date.

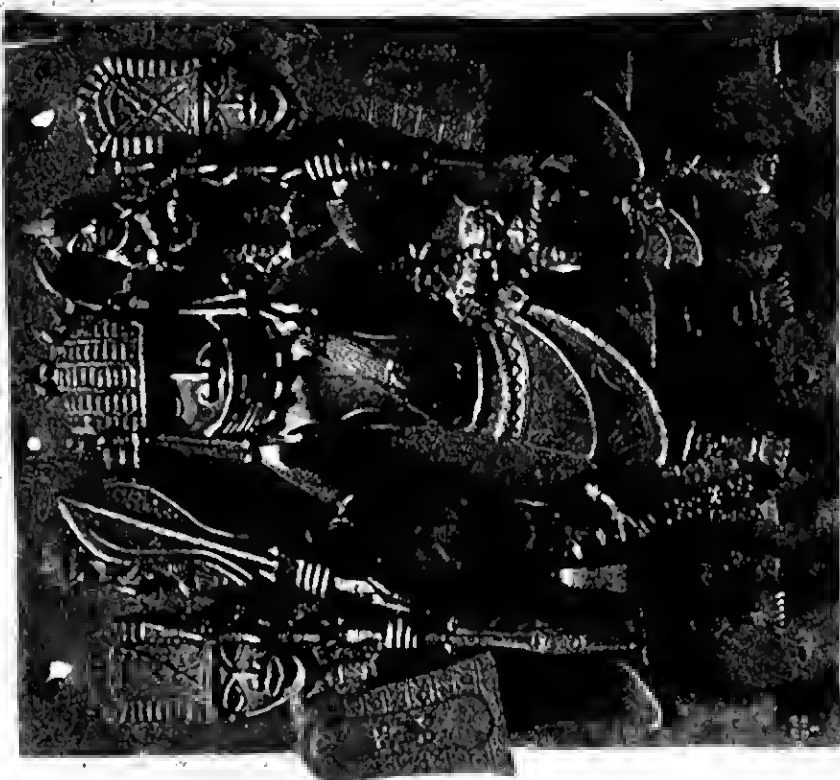
ANTHROPOLOGICAL NOTE.

The Foxhall Flints.—An International Committee has met at Ipswich to consider Mr. Moir's finds at Foxhall, etc. It consisted of Dr. Capitan of Paris; **90** Professors Lohert and Fraipont, and Fourmarier of Liège, as well as Monsieur Hamal, also of Liège; Drs. MacCurdy and Nelson from America; and Mr. Miles C. Burkitt. The questions before the Committee were :—(i) The character of the flints themselves; (ii) Their origin: did they really come from the deposits claimed? (iii) Their age; are these deposits really of Pliocene age? and (iv) Are these deposits really *in situ*? A joint report will appear shortly. After a careful study had been made at Ipswich those specially interested in flints went to see Mr. Hazzledine Warren's collection of natural fractures from the Eocene beds at Grays. Mr. Warren is opposed to the idea that the Foxhall flints, etc. are artefacts, and so it was important that the Committee should see the evidence. Some members were completely convinced that the Ipswich flints are true artefacts. One or two members still prefer to suspend judgment, but say they are really troubled by what they have seen. It is not considered that Mr. Warren's finds (extremely interesting though they are from many points of view) really resemble the Ipswich finds and that the natural explanation which accounts for them is not sufficient to explain the Ipswich flint fractures.



51 x 41.2 cm.

1



43.2 x 37.9 cm.

2

BRONZE PLAQUES FROM BENIN.

ORIGINAL ARTICLES.

With Plate L.

Africa, West: Art.

Braunholtz.

Two Bronze Plaques from Benin. By H. J. Braunholtz, M.A.

91

The two bronze plaques which form the subject of Plate L were presented by the Secretary of State for Foreign Affairs to the British Museum in 1913. These were actually the first two plaques from Benin sent over to England as samples after the punitive expedition; they may thus be considered to have a certain historical interest, while an additional interest attaches to one of them on account of the rarity of the subject which it illustrates. The series of bronze plaques from Benin already published is peculiarly complete, and it would be a pity if the existence of two such excellent examples as those here illustrated should be allowed to remain unrecorded.

The plaque depicted in Fig. 1, which has suffered some small damage at the edges and to one of the figures, but is otherwise well preserved, evidently represents the sacrifice of a cow or perhaps more probably a bullock. This is a subject which occurs on only one other of the known plaques from Benin, viz., P. R., Plate 47, Figs. 369-371.* Both in subject matter and composition these two plaques bear such a striking resemblance that they must have had a common inspiration. The subject is treated with characteristic *naïveté*, and the figures vary in size according to their importance or the exigencies of space. There is an entire disregard of visual realism in the relation of the animal to the figures holding it, the former being depicted "spread-eagled" as though seen from above while the figures appear in the normal vertical plane. The whole arrangement of this group is in fact diagrammatic; on the other hand, there is, as usual, much realism in details, such as, for instance, the grip of the men's hands on the animal's legs.

The diagrammatic effect of this group on the left of the executioner is emphasised by the disposition in opposite corners of these figures, which resemble each other in coiffure and ornament. Thus the coiffure of the second lower figure from the left (which is obscured by the shadow in the photograph) is actually identical with that of the upper left-hand figure, and both of these figures lack the tooth collar worn by the other pair. The executioner, the dominant figure, wears a feather plume, a tooth collar, a pair of armlets on his right arm† and a waistcloth with tassels; he is seen in the act of cutting into the animal's neck with his right hand, while he grasps one of its horns with his left. He is assisted by four smaller figures, already mentioned, each of which holds one of the animal's legs with both hands; a sixth figure, intermediate in size between these four and the executioner, grasps the head between his hands. So far, the arrangement closely follows that of the Pitt-Rivers plaque, with minor differences of detail only. A seventh and very diminutive figure, holding an indeterminate object, also appears in both plaques, though in a different position; finally, the figure of a European, which occupies the top right corner of the P.R. plaque, is here replaced by that of a native holding some object which has been damaged beyond recognition.

It may be worth mentioning, as a technical point which is not clear from the illustration, that the figure of the cow actually consists of a thin sheet of metal raised about 2 inches above the base of the plaque; it is hollow underneath and connected with the background by five supports or struts, four of which are under the legs, and the remaining one under the middle of the body.

As regards the subject of sacrifices, we know that animals as well as human

* This plaque is reproduced with a detailed description in v. L., Fig. 163, p. 259.

† This pair of armlets, the upper one being of the knotted type, is commonly, though not exclusively, associated with figures carrying the so-called "sacrificial" knife.

beings were habitually sacrificed at the death of the King of Benin,* and we have the more recent record† of the sacrifice, among other victims, of 12 cows on the anniversary of the death of Adolo, father of Overami.

The other plaque (Fig. 2) is a fine example of a more familiar type. In composition and in details of costume, etc., it corresponds closely with the plaque illustrated in R. D., Plate XIX, 1†; so much so that the description there given might almost be taken to apply verbatim to the present specimen. It represents a chief with ceremonial knife, flanked by two attendants holding each a shield and a spear, one of which is also grasped by the chief's other hand. The spaces between these three large figures are occupied by four smaller attendants, symmetrically disposed. The two upper carry respectively a round fan and a box in the form of a cow's head (rarely depicted in the plaques), while of the lower pair one blows a horn and the other carries a sheathed sword and the familiar clapper-like object.

Two features of an exceptional kind are, perhaps, worth noting. The spears with openwork handles borne by the attendants are rare and do not occur elsewhere in this type of scene. R. D., XX, 2, shows a pair of figures with them, and they recur singly in v. L., Plates 9 and 23. They would appear to be ceremonial weapons.

The other exceptional feature concerns the engraved ornament on the chief's waist-cloth; this includes besides the common European head and the crescent, a cross several times repeated and somewhat resembling what is often (though wrongly) called a Maltese cross. This is a unique example, so far as I can discover, of the cross used as an engraved decoration on clothing in Benin art. The form of cross, if, indeed, it is a Christian emblem,§ is distinct from the two types of pectoral crosses, the "Greek" and the "patée," which appear on detached bronze figures and on some of the carved tusks, and also from the cross of the Military Order of Christ represented on some of the ivory hunting horns carved for the Portuguese in the XVIth century. But it closely resembles a flat bronze cross illustrated in Webster's catalogue 21, No. 145, and now in the Hamburg "Museum für Völkerkunde."|| The same device reappears carved on portions of a wooden stool (in the British Museum) of the type illustrated in R. D., VIII, 3.

H. J. BRAUNHOLTZ.

Africa, West : Sociology.

De Jonghe.

Les empêchements de Mariage chez les Bakongo. Par 92
M. Ed. De Jonghe, Professeur de l'Université de Louvain.

Dans le très intéressant compte rendu des "Etudes Bakongo" du Père Van Wing, paru dans MAN, fascicule de mai 1922, No. 50, pp. 78-80, il s'est glissé une petite inexactitude qui pourrait induire en erreur les ethnologues qui s'intéressent aux institutions familiales des primitifs.

Je vous demande la permission de remettre les choses au point.

* O. Dapper, in his *Noukeurige Beschrijvinge der Afrikaensche Gewesten* (2nd Ed. Amsterdam, 1676), gives details of sacrifices, but without specifying the animal victims; nor, curiously enough, does he include the cow in his list of animals found in the country.

† Information obtained from chiefs in 1897, cited by R. D., p. 6.

‡ Other similar plaques are R. D., XVIII, 6, and v. L., Plates 11 and 19.

§ Joyce has pointed out that an identical device, derived from textile technique, occurs on wooden carvings of the Bushongo. *Les Bushongo*, E. Torday and T. A. Joyce, p. 217 ff.

|| See *Mitteilungen aus dem Museum für Völkerkunde in Homburg*, VI (1918), p. 84.

ABBREVIATIONS.

R. D. = *Antiquities from the City of Benin* . . . in the British Museum., C. H. Read and O. M. Dalton. London, 1899.

P. R. = *Antique Works of Art from Benin*, collected by Lieut.-General Pitt-Rivers. Printed privately. 1900.

v. L. = *Die Altertümer von Benin*, F. von Luschan. Berlin, 1919.

M. Torday écrit (p. 80, ligne 2) : " It results from the various importance " attached to the different relationships that a marriage *with the father's brother's* " *daughter is admitted, while it is prohibited with the father's sister's daughter.*"

D'après cela, le mariage serait illicite avec la fille de la tante paternelle, mais licite avec la fille de l'oncle paternel.

Or, d'après le P. Van Wing, c'est précisément l'inverse qui est vrai chez les Bakongo : l'homme peut épouser sa cousine germaine, fille de son oncle maternel ou de sa tante paternelle, mais il lui est interdit d'épouser sa cousine, fille de son oncle paternel.

Voici en résumé, d'après l'exposé du Père Van Wing, la réglementation coutumière du mariage entre cousins et cousines du 4^e degré chez les Bakongo :

1. On ne peut épouser la cousine, fille de sa tante maternelle, parce que celle-ci appartient au même clan. C'est une simple application de la règle exogamique chez les peuplades à filiation utérine.

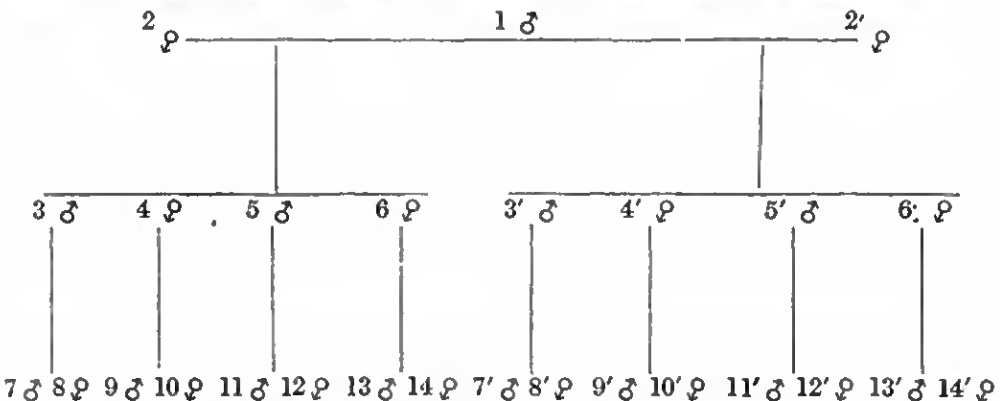
2. On peut épouser la cousine, fille de son oncle maternel. Celle-ci appartient à un autre clan : " Les enfants de l'oncle maternel, disent les Bakongo, contractent " mariage avec les neveux et nièces " (p. 191-192). Ces mariages sont recommandés parce qu'ils fortifient les alliances de clans.

En vertu de la même règle, on peut épouser la fille de sa tante paternelle. Dans un tel mariage, en effet, c'est une fille qui épouse le fils de son oncle maternel.

3. On ne peut pas épouser la cousine, fille de l'oncle paternel. C'est une application de la règle qui interdit le mariage entre gens qui ont le même sang (p. 187). Or, outre les gens du même clan, sont considérés comme ayant le même sang les pères; et par pères les Bakongo entendent aussi les oncles paternels; et, d'autre part, les mâles transmettent le sang à leurs descendants immédiats. Donc les enfants de mes frères ont le même sang que les miens; ils sont assimilés aux gens du clan; la règle de l'exogamie leur est appliquée.

4. Le mariage est interdit entre cousins et cousines, fils ou filles de frères ou de sœurs simplement consanguins (non germains). Cette interdiction se base sur la fraternité de la famille paternelle : " Bumpangi bu nkanda kitata " (p. 190).

Le tableau schématique ci-dessous rendra ces règles matrimoniales plus claires. Il représente un grand-père polygame (1) ayant de chacune de ses deux femmes (2 et 2') deux fils et deux filles, et de chacun de ceux-ci un petit-fils et une petite-fille :—



En vertu des règles énoncées, le mariage est :

(1) illicite entre 9 et 14, 13 et 10.

(2) licite entre 9 et 8, 7 et 10, 13 et 8, 7 et 14, 13 et 12, 11 et 14.

(3) illicite entre 7 et 12, 11 et 8.

(4) illicite entre respectivement 7, 9, 11, 13 et 8' 10', 12', 14'; et entre 7', 9', 11', 13' et 8, 10, 12, 14.

ED. DE JONGHE.

Papua: Technology.

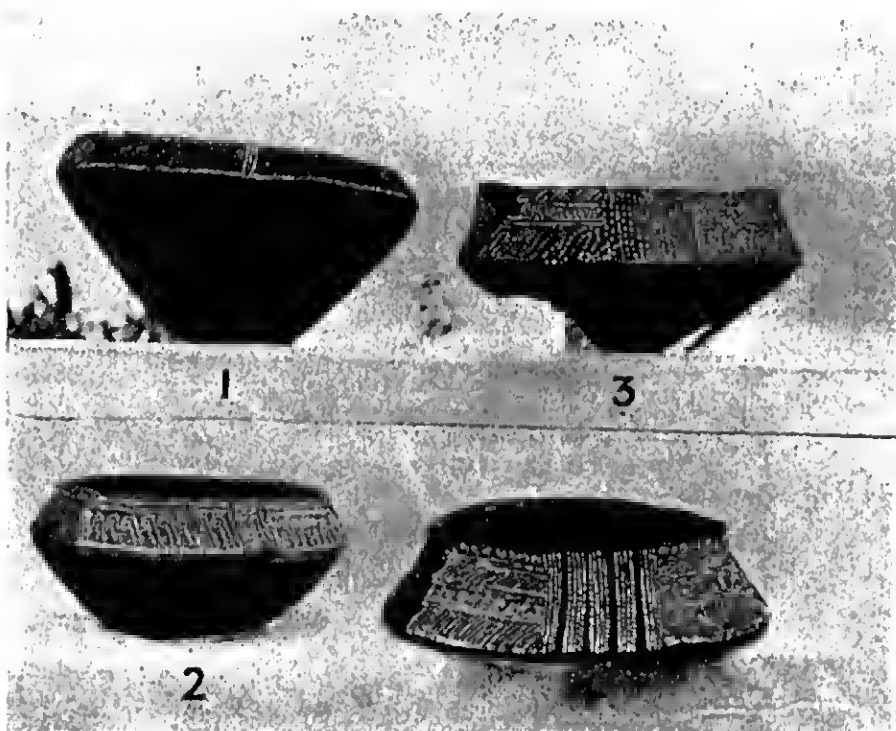
Lyons.

Sepulchral Pottery of Murua, Papua. *By A. P. Lyons.***93**

The pots shown in the accompanying illustrations were found by me in a natives' sepulchre on Mapas Island, which is situated at the entrance to Suloga Harbour, Murua (Woodlark Island).

The sepulchre is a shallow cavity formed by two large basaltic boulders that partly hang above the surface of the ground. In this cavity I counted eleven clay pots. Each pot contained one or more skulls, besides other human bones.

Only quite recently the descendants of natives who have lived on or near Mapas Island for generations became aware of the existence of the sepulchre. This fact, and that, despite being well protected from the weather, some of the bones had crumbled to dust and some of the pots broke when lifted, proves the antiquity of the relics. Disposing of the dead in this manner has not been practised on Murua within the memory of any native now living.



Four of the pots, including Figs. 1 and 2, apparently were intact when first placed in the sepulchre. However, when lifted by me, the bottom fell out of each of them. The others seem to have had a hole in their bottom before being placed in the tomb, and as some of them, including Fig. 3, had clearly been subjected to fire at some time, it is quite likely that they were broken cooking pots when the relics were placed inside them. When shown Fig. 3, an old native of Murua instantly remarked that the bottom had been burnt out of it, and he expressed the opinion that the pot had first been used as a domestic utensil.

All the pots are round. Fig. 1 appears to be the newest, and, though smaller than the others, is thicker. It is made of coarse terra-cotta-coloured clay, and has two "ears" opposite each other, which probably represent handles. The outer surface of this pot is slightly glazed, the glazing being the colour of resin. In all likelihood the glazing is accidental. Missionaries and others most familiar with the

natives of the eastern portion of the Territory have informed me that artificial glazing is an unknown art amongst present-day potters, and that they have never heard of it being practised in the past.

Fig. 2 is made of fine red clay, and, though perhaps not so old as Figs. 3 and 4, is older than Fig. 1. It is thinner than Fig. 1, but thicker than the other two, has no ears, and is not glazed.

Apparently Figs. 1 and 2 had not been used for cooking purposes.

Fig. 3 is a broken cooking pot, and Fig. 4 is the sloping collar or upper part of a similar pot. Both of these pots are made of the same dark-coloured clay. It is now impossible to say whether they had been glazed.

The decorations on the four pots shown in the photograph are incised. As will be seen, they differ considerably, those on Figs. 3 and 4 being most extensive and more elaborate than on the other two. A similar pattern to that incised on Fig. 1 is to be seen on pots that are now in use on some of the islands at the eastern end of New Guinea. The same may be said of the meagre decorations on Fig. 2. The patterns on Figs. 3 and 4 I am not familiar with.

Figs. 1 and 2 probably came from the Amphlet Group *vid* Dobu Island, as pots of exactly the same shape are made there at the present time, and the Murua natives have long engaged in trading relations with the Dohuans.

The manufacture of earthenware was carried on by natives of Murua in the long ago, but only in the Suloga district, where the special clay that was used for the purpose was obtainable. However, it seems to be a lost art, for no pottery is now made on Woodlark Island, the requirements of the people being purchased at Paniet, Dohu and Kiriwina Islands principally, during the annual trading voyages. It is probable that Figs. 3 and 4 are examples of the lost art of the Muruaites, for the quality of the clay out of which they are made is not unlike that found in the Suloga district.

The dimensions, in centimetres, of the pots shown in the photograph are as follows :—

		Fig. 1.	Fig. 2.	Fig. 3.	Fig. 4.
Greatest diameter	- -	35	45	41	42
Diameter at mouth	- -	28	37	35	23
Width of collar	- -	7	5	9	11
Depth of pot when intact	-	20	26	23	—

A. P. LYONS.

India : Sikh.

Balfour.

The Use of the Term "Sikh." *By Henry Balfour, M.A.*

A letter has been received from Captain D. H. Gordon, D.S.O., criticising my use of the term Sikh as applied to one of the figures in my article upon "Earth-pipes," published in a recent number of MAN. He urges that "Sikhs that follow the teaching of Guru Gorind Singh are strictly forbidden to smoke," and that "all Sikhs who enlist in the Indian Army must of necessity take the form of baptism which makes them Gorindi Sikhs. It is then obligatory that they should observe the five Kakas and refrain from smoking." Granted. I do not doubt the validity of Captain Gordon's criticism. The argument is that the person represented in the figure cannot have been a Sikh, though it is somewhat weakened by his continuing as follows: "The penalty for disobedience being a heavy fine, which money goes to the Gurdwara." This statement makes it clear that the strict rule is sometimes broken and that, therefore, even Sikhs do occasionally indulge in the forbidden luxury, and suggests that other sectarian prohibitions, to which he refers in his letter, may equally be liable to evasion.

As a matter of fact, I had my own doubts as to the validity of the designation "Sikh," which appeared in the French article from which I was quoting, and it was through inadvertence, in my haste to send in the article by the promised date, that I accidentally omitted to put the name "Sikh" in inverted commas in the fair copy as in my rough draft. The name, even in official documents, is frequently used loosely, and is, unfortunately, often applied to persons who should not properly be so designated. I was quoting a passage in a French article with a view to illustrating the spread of a particular custom in India and Central Asia, and quoted the sentences as they stood, but the inverted commas were both required and intended in my own comments on the passage and would, perhaps, have reassured Captain Gordon as to my not employing the term in a strict sense, and that I had adopted it at second-hand under no guarantee and with reserve. HENRY BALFOUR.

Fiji: Technology.

Edge-Partington.

A Fijian Oil Dish. By J. Edge-Partington.

95

I have been interested in Mr. Beasley's note in MAN (1922, 76), but I cannot agree with him that the Dish is used for Oil. It is, in my opinion, a priest's Kava bowl, and both Mr. Calvert and Captain Erskine are right in thus describing it. The latter further mentions that this object had composed part of the furniture of an old heathen temple, and as such was looked upon by the natives as very sacred. Lorimer Fison in his paper on the Nanga (*J.A.I.*, XIV, 14) speaks of the Kava bowl standing in the sacred enclosure.

In the British Museum is a priest's Kava bowl, on a similar base, figured by me in the *Album*, Pl. 111, No. 5; and about which I have the following notes:—

The late Lord Stanmore thus describes its use: "Priests drink from these on their hands and knees, without raising the vessel from the ground."

Baron A. von Hügel also confirms this, and says: "The reason of the circular base is that a 'layman' might not touch that portion of the vessel which the priest might have to touch, so the former would carry the bowl by the lower ring. In nearly all cases vessels with handles are for the use of priests."

Mr. Beasley's only ground for suggesting that the bowl in question was for oil is the lack of any incrustation. This, I think, can be easily explained. Exposure to light will destroy the beautiful blue enamel-like appearance brought about by constant use, and for this reason Fijians keep their Kava howls wrapped up in tapa.

If this bowl is the one described by Captain Erskine, as well it may be, it was obtained by him in 1849, and probably during this long period has undergone many a polishing.

J. EDGE-PARTINGTON.

India: Sociology.

Rose.

Legitimation and Adoption in Hindu Law. By H. A. Rose.

96

(Continued from MAN, 1922, 87.)

Yet another term is *jhāta* or *jhatogra*. All these terms are used in a relatively small area, and their variety suggests that they are not strictly synonymous, but that each may denote a special type of posthumous stepson.

The term "Paunarhhava" now merits discussion. It means the son of a *punarbhū*, or "remarried woman." But Manu himself goes on, in IX, § 176, to point out that a *punarbhū* may be worthy to again perform with her second husband (or first deserted husband) the (nuptial) ceremony. But if she, being a virgin, or one who has returned to her first husband after leaving him, is competent to perform a valid second, Bühler's translation of § 175 is either incorrect or the text has been corrupted. His translation runs:—"If a woman abandoned by her husband, or a widow, of her own accord contracts a second marriage and bears (a son), he is called the son of a remarried woman (Paunarhhava)." Turning to Nārada we find that he

gives three classes of *punarbhū*. The first is the one contemplated in Manu, IX, § 176—as above—and obviously she is only nominally or technically a *punarbhū*, and her son by a second and perfectly lawful husband could not be excluded from inheriting from him. Nārada's second class becomes a *punarbhū* by hetaking herself to another man, but she returns to the house of her first husband, and so, presumably, her adultery is condoned: XII, § 47. His third class is a woman who, on failure of brothers-in-law, is delivered by her relations to a *sapinda* of the same caste, and so is termed the third *punarbhū*: § 48. In this last case her son by the *sapinda* would presumably be affiliated to her deceased husband by *niyoga*, but the section seems to exclude the *niyoga* and to be dealing with a case where a widow is handed over to a *sapinda*, not merely for the purpose of raising up seed to her deceased husband, but as the permanent consort of the *sapinda*, though Nārada does not explicitly restrict the *niyoga* to brothers-in-law, or exclude *sapindas* when there are no near kin: § 80-7. All this suggests that the Paunarhhava must be either the son of a *punarbhū* of the third type, who has contracted an *invalid* remarriage, or the son of the paramour, and not by the husband, in the second type. In any case Manu, IX, § 175, must clearly be read with § 176, which contemplates the complete and formal condonation of the adultery by the repetition of the nuptial ceremony.

But this by no means exhausts the problems of adoption. Hitherto we have considered affiliation to and adoption by men who by those processes acquire sons. But in addition we find cases, at least in modern custom, where adoption is *reciprocal*. One of the most instructive of these is that of the *bhūm-bhāi* or "land-brother," a man, even a stranger, "adopted" by a land-holder: "Karnal Gazetteer," 1890, p. 138. Now the *bhūm-bhāi* is stated to lose all rights in his natural family, and so, presumably, he acquires countervailing rights of inheritance in his "adoptive" family. Further, we may conjecture that his son inherits in his father's adoptive family on equal terms with the son of the "adoptive" brother. But this suggests the question "Who is his mother?" It is probable that, at any rate in the original form of the institution, she was the joint wife of the two mutually adopted brothers. This conjecture is supported to some extent by what occurs in the Tibetan canton of Spiti. There Tibetan polyandry is, of course, the rule, and full brothers or cousins take a joint wife. But it is easy to extend this practice, and so two men who are not brothers or even cousins can, by taking a joint wife, become "brothers," and having done so they will proceed, quite logically, to throw their separate holdings into hotchpot and become fully "brothers," with wife and land alike held jointly.* On the other hand, in the Panjah plains, at least among Hindus, reciprocal adoption, even when it has no religious basis whatsoever, may operate to form a bar to intermarriage just as natural kinship would do.

In view of the unanimity with which ancient Hindu law condemned widow remarriage, it is instructive to note the attitude towards it in those castes which practise it. In the Panjāh, among such castes, there is on the one hand a very strong feeling that a widow is bound to marry her husband's brother. So binding is this obligation in some parts, that the wedding is virtually a continuation of the funeral rites for the deceased husband: "Chamha State Gazetteer," Lahore, 1904, p. 153. On the other hand there is a feeling, not nearly so strong, that the husband's brother is bound to take to wife the widow, as it is a disgrace for her to marry into a strange family: Rose, "Compendium of the Panjah Customary Law," p. 43 (among Jāts). So far is this idea pushed that I have known cases where a man already married deemed it his duty to discard his own wife and espouse the widow of his brother, although

* The case came under the present writer's notice many years ago, and in his inexperience he neglected to inquire whether the new "brothers" were in any way akin or complete strangers. Rose, "A Glossary of Panjah Tribes and Castes," I., p. 905.

he had everything to lose by the exchange. The question whether there is any distinction between the late husband's elder and younger brothers must be answered generally in the negative. In the Eastern Panjāb the younger brother has first claim on the widow's hand, then the elder brother, and after them other relations in the same degree: "Karnal Dist. Gazetteer," Lahore, 1893 §, 316, quoted in "Gloss. Pb. Tribes," I, p. 901.* Exactly the same rule is said to govern the hill Brahmans in Hazāra: Rose, "Compendium," p. 44. But the customs are fluid to a degree, and it is, perhaps, more profitable to commence by looking into the terms in use. In the Himalayan State of Mandī, where the marriage of a younger brother's widow is only permitted among the lowest castes, and that of an elder brother's widow is universal, though it involves excommunication among the four highest castes, the term applied to it is *dharēwa*† *karēwa* in both cases. But if the widow marry a man who is not her husband's brother, the word used is *jhanjarārā*.‡ Elsewhere the latter word is applied to the rite in all forms of a widow's remarriage: Rose, "Gloss.," I, p. 796.§ The term seems to mean "putting the nose-ring in the bride's nose"; but in the Sirmūr State *jhajra* is "regular" marriage (not Brahmanical), as opposed to *rīt*,|| marriage with a woman purchased from her former husband. *Dharēwa* is probably a synonym of *karēwa*, and a wife married by *dharēwa* is *dharēl*, but there is no corresponding term for one married by *karēwa*, and the original meanings may have been different. A widower who remarries is *dheju*: "Gloss.," I, p. 900 (but this term seems confined to the Eastern Panjāb).

In the Panjāh, then, the terms for remarriage are few as compared with those for marriage, and there are fewer for a remarried widow, while none distinguish her who marries a husband's younger from her who espouses his elder brother or a cousin. But it would be going too far to say that no distinction is made. On the contrary, remarriage to a stranger stands on a very different footing to ratification of the marriage, as it were, within the near kindred. Thus in the Bashahr State, when the second husband is a stranger, the *rīt* is "loaded," as it were, with a special *rīt* called *makhtal*, and, in former times, a widow's remarriage when her husband had left no near kinsmen was the pretext for diverting the *makhtal* into the coffers of the State: "Simla Sts. Gr." (Bashahr), p. 14: cf. also "Kunhiār," p. 6. In such a case the usage may mean that the State regarded remarriage to a stranger as an offence against Brahmanical law only to be condoned on payment of a price for its dispensation, and/or that the widows with the land escheated alike to the State, so that the new husband had to redeem them.

The facts above collated suggest that in some respects the accepted views regarding adoption in early law require modification. Sir Henry Maine held that in Hindu law the place filled by "wills" is occupied by "adoption." But as the present writer

* This is curious, because in the Karnāl Dist. a wife must veil her face before all the elder brothers and other elder relations of her husband, regard being had not to age but to genealogical degree: *ib.*, p. 900.

† According to Sir Lepel Griffin a second remarriage was called *tharēwa*: Rose, "Compendium," p. 42. But this word seems quite obsolete. *Dharēwa* can hardly be derived from *dēwar*. It seems to be from a root meaning "to hold"; and *karēwa* may be derived from *karnā*, "to meke or do," so that it is tempting to translate it by "*de facto* marriage."

‡ The word is confined to the hills, and, in Kulu, *randol* is also used for "widow remarriage," but whether it is a precise synonym for *jhanjarārā* is not certain.

§ The term *rīt* is widely used in the hills with various senses. In the petty State of Kuthār, near Simla, the *rīt* was paid to the State by the man who married the widow or widows of a land-holder dying without sons or agnates in the second degree: "Simla States Gazetteer," 1904 (Kuthār), p. 8.

|| *Karao* is merely a dialectical form of *karēwa*, and it is doubtful whether it ever connotes mere concubinage, as Mr. Chattopadhyaya, quoting H. M. Elliott's "Glossary," says: MAN, 1922, p. 39. There is almost always a distinct word for "concubine."

has shown elsewhere,* the adopted son in Hindu law, and in Indian custom also, does not merely take property bequeathed to him, but becomes a member of his adoptive family, and thereby acquires much wider rights of direct and collateral inheritance. Yet, in spite of this favoured position, the adopted son can hardly ever be regarded as acquiring the same status as a fully legitimate son. Only when he is ritually adopted as a *datrima*, the modern *datta* or *dattaka*, does he seem to escape some degree of disparagement, and in the Panjāh, where ritual adoption is rare, the general term for an adopted son is *putrela*, a diminutive implying lowered status.

Still more do Jolly's conclusions† seem to call for reconsideration. In Hinduism, the widow of a "rich and powerful man" would be most suitably provided for by the institution of *sati*. Her remarriage would be an insult to his memory. To submit her to the *niyoga* would be a compliment to her and no reflection upon him, but it would, if successful, deprive the next-of-kin of their reversion in his property. Hence post-conjugal *niyoga* seems to have died out, though marital *niyoga* has been reinducted by one section of the highly progressive Ārya Samāj in recent years. Among the lower and poorer castes a widow is as a rule far too valuable to be allowed to go out of the family, and *a fortiori* its interests would not be served by using her to raise up seed to her deceased husband. It is not surprising then that, in latter-day India, the question most in debate is whether a widow is to be remarried or not; whether her issue are then legitimate or not; and that the possibility of affiliating the first-born son to her deceased spouse has been utterly forgotten. The evolution of the law of adoption cannot yet be definitely traced, but it may have been something like this:—In primitive communities, Aryan or non-Aryan, failure of legitimate sons is repaired by practices like the *niyoga*, or the affiliation of sons, like the *kānina* or the *sahodha*. Then come the reformers who try to raise marriage to a higher level, and introduce adoption as a less degrading method of allowing a sonless man to obtain an heir than polygyny, especially second marriages with women of strange castes, or with women already possessed of sons. But adoption in its turn calls for regulation, and so we find Manu doing that on a remarkably rational basis. But the force of immemorial usage is strong, and so the later jurists prudently let in affiliated and adopted sons without the restrictions of any clearly discernible principles whatsoever.‡ In the Panjāh, which has not been under Brahmanical influences for centuries, we find the primitive ideas still at work, and the orthodox doctrines of adoption almost forgotten or ignored.

H. A. ROSE.

Obituary.

Robert Henry Codrington, M.A., D.D., September 15, 1830—
September 11, 1922. By S. H. Ray, M.A.

Ray.

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The death of the Rev. Dr. Codrington at Chichester on 11th September has removed the last surviving witness of the heroic age of the Melanesian mission, the friend and companion of Patteson, and the first by his researches and writings to bring the claims of the Melanesian peoples to the serious attention of students of philology and anthropology.

Robert Henry Codrington was born on 15th September, 1830, and was thus within four days of completing his 92nd year. He was educated at Charterhouse (1845-48) and Wadham College, Oxford, a Scholar from 1849 to 1853 and a Fellow in 1855. He was ordained in 1855-7, and, after a short curacy in Oxford, went to Nelson, New Zealand. Here in 1863 he met Bishop Patteson and was invited by him to go on the Island Voyage in the "Southern Cross." Thus began his first

* Rose, "A Compendium of the Punjab Customary Law," Lahore, 1910-11, p. 84, quoting "Ancient Law," 10th ed., p. 193.

† "Outlines of an History of the Hindu Law" (Tagore Law Lectures, 1883), p. 154.

‡ See Jolly, *op. cit.*, pp. 145 ff., or his "Recht und Sitte," pp. 71 ff.

acquaintance with Melanesians. When I saw him last, at Easter of this year, he still retained a vivid recollection of his first voyage to the islands.

In 1867, just after the Training School had been established at Norfolk Island, Mr. Codrington joined the Melanesian Mission. He undertook the supervision of the studies of the younger members of the Mission Staff, and began to cultivate that close personal friendship and sympathy which gained him the intense affection and confidence of his Melanesian pupils.

After the martyrdom of Bishop Patteson in 1871, Mr. Codrington became head of the Mission, but declined to accept the Bishopric. The reason given for his refusal, as mentioned by the Warden of Wadham in a recent letter, was very characteristic of his modesty. "He thought the mission would gain more by the appointment of a first-rate man from England." As a writer in the "Southern Cross" long remarks, he realised "that with his own special gifts he could do more valuable work by building up the characters of individual Melanesian lads at Norfolk Island and by devoting himself to a study, at once scientific and sympathetic, of Melanesian speech and custom and manner of thought, than by assuming the responsibility of organising and governing a missionary diocese." Mr. Codrington's enquiries at Norfolk Island and occasional visits to his old pupils, accumulated material for his great book on "The Melanesian Languages." This was published in 1885 and contained thirty-four Melanesian Grammars, exhibiting the languages of the islands from the Central New Hebrides to the Central Solomons. It contained also a Comparative Vocabulary and Grammar and chapters on Phonology and Numeration. It was not only a record but a model for future students. The *lingua franca* of the Mission was the Mota of Banks Islands, and Codrington's pupils took an active part in the presentation of their own languages by means of the Mota they had learned at Norfolk Island. Some even inquired themselves into new tongues.

In 1883 Mr. Codrington returned to England to supervise the publication of the New Testament which he and the Rev. John Palmer had translated into Mota, and received the degree of D.D. from Oxford. In 1887, shortly after his return to Norfolk Island, he retired from active service in the Mission field.

During this period in Norfolk Island Dr. Codrington reviewed and extended the results of his earlier enquiries into the religious beliefs and folklore of the Melanesians which had been printed in 1879 and 1880, and investigated their sociology. The final result was his book on "The Melanesians: their Anthropology and Folklore," published in 1891. In this he was again aided by his pupils, many of whom recorded in their own language, or in Mota, their actual experiences in the ceremonies described.

After his retirement from the Mission, Dr. Codrington had accepted the living of Wadhurst, Sussex; but did not retain it long. In 1892 he again visited Norfolk Island, and there, with the Rev. J. Palmer, collected material for the Mota dictionary which was published in 1896. He became a Prebendary of Chichester and in his quiet home in the precincts of the Cathedral lived a retired life full of literary and linguistic interests. His house became a place of pilgrimage for new recruits to Melanesia, and he never lost his love for the Mission, but kept up a large correspondence with his old pupils. I first knew him in 1888. I had sent him a first specimen of my own study in Melanesian and a few queries on the languages. He straightway invited me to Wadhurst, and henceforth took a lively interest in my studies. His knowledge and sound judgment were always at my service, and his books were always available for my use. I, at least, can understand the affection and reverence felt for him by his Melanesian pupils. Nothing can be truer than the words of a correspondent of *The Times*: "He was the soundest of scholars, kindest of teachers, most practical of saints, most genial and tolerant of friends."

BIBLIOGRAPHY.

1873. O vatavata we tuai. St. Barnabas. (*The Old Testament*, assisted by Rev. J. Palmer.)
1875. O Lea we Wia. Amon Mathow me rave. London. (*Gospel of St. Matthew*, assisted by Rev. J. Palmer.)
1876. O vatavata we Tuai o tuan Vavae mora Prophet nan. St. Barnabas. (*Old Testament* portions, assisted by Rev. J. Palmer.)
1876. O Lea we Wia. Amon Mark me rave. London. (*Gospel of St. Mark*.)
1876. Epistle of St. James (Mota). Auckland, N.Z.
1877. Selections from the Epistles and Revelation. St. Barnabas.
1877. Sketch of Mota Grammar. London.
1879. Notes on the Customs of Mota, Banks Islands. (Royal Soc. of Victoria.) 25 pp.
1880. Religious Beliefs and Practices in Melanesia. (*Journ. Anthropol. Inst.*, X., pp. 261-316.)
1880. O vavae ta England. English Grammar. St. Barnabas, Norfolk Islands. (*English Grammar in the Mota Language*.)
1884. On the Languages of Melanesia. (*Jour. Anthropol. Inst.*, XIV., pp. 31-43.)
1885. Sound-changes in Melanesian Languages. (*Proceedings Philological Soc.*, 12 pp.)
1885. The Melanesian Languages. Oxford.
1885. O Vatavata we Garaqa. London. (*Mota New Testament*, assisted by Rev. J. Palmer.)
1889. On Poisoned Arrows from Melanesia. (*Jour. Anthropol. Inst.*, XIX., pp. 215-219.)
1891. The Melanesians—Studies in their Anthropology and Folklore. Oxford.
1894. Story of a Melanesian Deacon: Clement Marau. Written by Himself. Translated by R. H. Codrington, D.D. London. (Marau wrote his story in the Mota Language.)
1896. A dictionary of the Language of Mota, Sugar Loaf Island, Banks' Islands, with a short grammar and index. London.
1902. O Vatavata we Tusi. Tavalii II. (Job to Malachi in the Mota Language.) London.
1903. On the Stability of Unwritten Languages. (MAN, No. 11.)
1914. O vavae vatogo ape Vasasa nan. Melanesian Mission Press. (Lessons on the Miracles.)
1915. O vavae vatogo ape Vavae tenegag nan. Melanesian Mission Press. (Lessons on the Parables.)

Besides these, large portions of the Book of Common Prayer and various religious books were written or translated into the Mota Language. S. H. RAY.

Britain: Archæology.

Stone.

Stonehenge. Notes on the Midsummer Sunrise. A Reply to
MAN, 1922, 77. By E. Herbert Stone.

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The paper by Rear-Admiral Boyle T. Somerville (MAN, 1922, 77) deals very clearly and comprehensively with the difficulties to be encountered in attempts to determine the date of a prehistoric megalithic structure by astronomical means. The general conclusions arrived at are also very fairly applied to the particular case of the work of Sir Norman Lockyer, as set forth in his paper entitled "An Attempt to Ascertain the Date of the Original Construction of Stonehenge from its Orientation."

Sir Norman Lockyer's paper was read before the Royal Society on October 21st, 1901, and was published in the *Proceedings*, Vol. LXIX (1901), pp. 137-147.

The Work of Sir Norman Lockyer.—The work of Sir Norman Lockyer in regard to the date of Stonehenge has from time to time been much misunderstood; and in a paper by the present writer, which appeared in the *Nineteenth Century* for January, 1922, an endeavour was made to set forth the matter clearly. In that paper the nature of the problem is defined; the general conditions are described; the methods adopted by Sir Norman Lockyer are explained, and the results obtained by instrumental observation are noted. There are also some references to mistakes which have been made in regard to the position of the Heel Stone in relation to the Axis, and some remarks are added in regard to certain adverse criticisms.

The reader who may be interested in the subject is invited to refer to that article for further details.

The article in the *Nineteenth Century* is, however, somewhat incomplete without the explanatory diagrams, which now, by the courtesy of the Royal Anthropological Institute, have found a place in the August number of MAN.

The Result obtained by Lockyer.—In reference to the first section (five paragraphs) of the article by Admiral Somerville, it may be noted that the work of Sir Norman Lockyer in this connection was simply the determination of the angle of Obliquity of the Ecliptic which would cause Midsummer Sunrise to take place at a point on the horizon on the line of the Axis of Stonehenge.

Sir Norman Lockyer found this angle of Obliquity to be $23^{\circ} 54' 30''$. The determination of this angle was the special object and limit of the work for which he personally was responsible. He gives the data (which were ascertained by instrumental observation on the ground), viz., Azimuth of Axis, Altitude of Horizon, and Latitude—having made the necessary corrections for refraction and other matters. With these data any competent computer can readily verify the result.

The Obliquity of the Ecliptic being determined as $23^{\circ} 54' 30''$, the date at which the plane of the Ecliptic made that angle with the Equator is a matter for astronomical calculation. Lockyer did not calculate this date, and is, therefore, not responsible for the date which (by other astronomers) may be assigned to this Obliquity.

By Stockwell's Tables (which were referred to by Lockyer) the date corresponding with this Obliquity is given as about 1680 B.C. Stockwell's Tables were, however, published about fifty years ago (1873). Since then the rate of decrease in the Obliquity has been determined with greater precision, and according to more recent computations the date for an Obliquity of $23^{\circ} 54' 30''$ (and consequently for Stonehenge Axis Sunrise) is found to be about 1840 B.C.

In regard to the difference in position on the horizon between "true sun" and "apparent sun," it is to be noted that the diagrams are plotted from the figures given by Sir Norman Lockyer, in which the necessary corrections are allowed for.

Method of Calculation.—In regard to the remarks by Admiral Somerville under "(1) Astronomical," it may be noted that the date entered in Lockyer's paper was not obtained by "working back from the present sunrise bearing." This method (which was generally adopted by previous investigators) involves the assumption of an average for the varying rate of decrease in the Obliquity, and has, therefore, an element of error which is absent from the direct and independent method employed by Lockyer (see above).

Determination of the Axis.—In his remarks under "(2) Archaeological"—regarding the Axis of the Structure and the difficulty of its determination owing to the roughness and irregularity of the stones—Admiral Somerville has, perhaps, overlooked the very great amount of care with which the position of the Axis was

determined by Flinders Petrie; and the surprising degree of accuracy which he was able to attain. (See Petrie, "Stonehenge," 1880, pp. 6 and 7.)

Norman Lockyer, with Petrie's results before him, made a careful determination of the centre line of the Avenue, and thereby obtained a line a quarter of a mile in length. It was evident that the builders intended the Axis of the Structure and the centre line of the Avenue to form one continuous straight line.

Any error in the Axis thus determined as the combined work of Petrie and Lockyer would probably be not greater than that which might have been made in the original line as set out by the builders.

Observation Point.—The point of observation which was used by the builders of Stonehenge was probably just behind (say, 2 feet clear of) the opening between stones Nos. 56 and 55 of the great trilithon. This point is 27 feet back from the centre, and has been generally adopted by previous investigators.

The point must, of course, be somewhere on the Axis; and—if there were no difference in the altitude of the horizon—it would not matter in the least, theoretically, what point on the Axis was selected. The observer had merely to look along the Axis line to view the sunrise.

The range for selection along the Axis line is, however, practically restricted by the conditions of the Structure. The point must be behind the great trilithon (not in front of it), otherwise there would be no direction. One cannot aim a gun which has no sights. Obviously, the most suitable position is just behind, and close to, the great trilithon, and there is apparently no other point reasonably probable.

But, even if we could suppose the observer to be stationed considerably further back, beyond the outer circle altogether, and 10 feet outside, the difference in apparent altitude of horizon would not be sufficient to affect the date to any important extent.

The position on the Axis selected by Norman Lockyer for his theodolite work was for convenience placed on the smooth grass plot behind and clear of the Structure, 34 feet back from "Observation Point" and 61 feet from the centre. His readings at this station were corrected for altitude of horizon to give the proper results for "Observation Point."

Position of the Sun.—As pointed out by Admiral Somerville, there are three stages in the sunrise which might be supposed to be of interest to an observer:—

- (a) Just commencing; first gleam.
- (b) Half sun's disc above horizon.
- (c) Fully risen—whole disc visible.

An examination of the diagram Fig. 3 (MAN, 1922, 68), showing the position of the sun's disc at different stages of sunrise and at different dates of Stonehenge lifetime, will no doubt suffice to show that, for the present enquiry, (b) and (c) may be rejected, and that only (a) is reasonably possible.

Position (a) is that which has been accepted as a matter of course by all previous investigators; as, even apart from the question of reasonable date, we may consider position (a), the first gleam of the rising sun, as that which would most naturally appeal to the builders of Stonehenge.

Two Circles at Stonehenge.—Admiral Somerville remarks: "There are at Stonehenge two monuments on the same site; one, apparently considerably more ancient than the other." He here refers to the two circles, one of blue-stones and the other of sarsens, and asks, "which of these two entirely distinct monuments is that for which a date is sought?"

Admiral Somerville here has apparently overlooked an important fact established by the excavations at Stonehenge conducted by Professor Gowland in 1901

and by Colonel Hawley in 1920. There can now be no doubt that, in the present structure of Stonehenge, the circle of sarsens and the circle of bluestones are contemporaneous. The sarsens were erected first, and the erection of the bluestones was undertaken immediately afterwards as a continuation of the same work by the same builders.

The Axis of the Structure is evidently that of the sarsen circle as determined by Flinders Petrie and set forth in his work on Stonehenge, as noted above.

Available length of Avenue.—Admiral Somerville remarks: "From the contral part of the circle to the furthest determinable point of the 'avenue' is about 260 feet."

Sir Norman Lockyer, in his paper, gives this distance as "more than 1,300 feet from the centre of the temple."

The present writer has taken cross-measurements of the Avenue at intervals of 50 feet extending over about a quarter of a mile.

General Conclusions.—After consideration of the foregoing remarks and a perusal of the paper in the *Nineteenth Century*, Admiral Somerville may, perhaps, be inclined somewhat to modify his conclusions. In any case, however, his article now under reply must be regarded as a most valuable and impartial paper on this very complex subject.

The present position defined.—The present position of the subject may be briefly stated as follows:—

(a) As the result of the investigations undertaken by Sir Norman Lockyer in 1901, the azimuth of the Axis of the present structure of Stonehenge, as originally set out by the builders, is given as approximately $49^{\circ} 34' 18''$.

(b) To cause Midsummer Sunrise to take place at Stonehenge at this azimuth, the Obliquity of the Ecliptic would be $23^{\circ} 54' 30''$.

(c) According to recent astronomical determination the date at which the plane of the Ecliptic was inclined to the Equator at the angle of $23^{\circ} 54' 30''$ was about 1840 B.C.

(d) Owing to want of precision in the data the result noted under (a), for the azimuth of the Axis of Stonehenge must be regarded as only a rough approximation. Sir Norman Lockyer considers that the possible error in the determination of the azimuth may, perhaps, affect the date by as much as 200 years, either one way or the other.

(e) We may conclude therefore that, as determined by astronomical considerations, the date for the building of the present structure of Stonehenge was probably not earlier than about 2040 B.C., and not later than about 1640 B.C.

E. HERBERT STONE.

REVIEWS.

Assam: Ethnography.

Hutton.

The Sema Nagas. By J. H. Hutton. London: Macmillan 1922. pp. xiii + 463. Price 40s. net.

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Mr. Hutton's reputation as an anthropologist of the first rank was established by his admirable book on the Angamis. It is maintained and increased by this fascinating book in which he describes the Sema Nagas, in many ways "the most primitive" of all the Naga tribes under British control. They are for the most part ignorant of weaving; they have but recently acquired knowledge of iron; the majority practise "jhum" cultivation with a ten or twelve years' interval; some have adopted terraced and irrigated cultivation after difficulties such as those mentioned by Mr. Mills (*Nature*, 15th December, 1921, p. 512) concerning the right

formulas and sacrifices, or in face of the signal opposition of "the stars in their courses," since "the heavy rain in 1918 which ruined the millet crop was put down "in Shevekhe village to the irrigation channels dug by a pestilential innovator who "wanted to make terraced fields instead of jhuming them like his forebears. The "wrathful villagers broke them up." The "basis of Sema society" we read, "is "the village, or part of a village, under the control of a chief." The social structure and conditions are most interesting. In the matter of marriage there is one main rule. "The female line is of no account, and relationship through the females, "though recognised as existing, is barely recognised and nothing more. A Sema "may not marry his wife's mother (herein differing markedly from the Garos, with "whom these marriages are obligatory),⁶ but can marry practically any female "relation of his own mother on her father's side." This liberality extends, in the view of the "vast majority," to marriage with the mother's sister. He may marry his father's sister's daughter. Marriage with "the mother's brother's "daughter (for the man*) or father's sister's son (for the woman*) is preferred." Further, "A Sema may marry his father's wife, other, of course than his own mother, "after his father's death, and, indeed, is regarded as entitled to do so if he wishes, "though the widow is under no obligation to marry her stepson and no penalty "attaches to her refusal to do so." The terms of relationship include in one term, A-ZA, (1) the mother (father's wife?), (2) mother's sister, and (3) mother's brother's daughter. A-NI which contains the common form NI (Lushei-Tangkhu-Chiru), is applied to six persons. In four cases it is a woman's term for (1) husband's mother, (2) husband's elder sister, (3) elder brother's wife, and (4) husband's elder brother's wife, while as *father's sister* (its meaning elsewhere) it is common to both husband and wife and is used by the man for his wife's mother. Similarly the term A-NGU covers six relations. These terms are classificatory and "applied "to males or females according to their relation to the speaker." Special social relations exist between a man and his sister's son. There is a mass of most valuable material recorded here for the analyst of social conditions. In the beliefs as to the nature of the soul, as to lycanthropy, as to the infectivity of death, in the superstitions which are living beliefs, not survivals, in the organisation of the religious beliefs, as set forth lucidly and sympathetically by Mr. Hutton, will be found matter of such weight that I fear new editions of "standard works" will be called for, new hypotheses of savage psychology will have to be framed to meet the new facts. Whence come these interesting folk? Mr. Hutton brings them from the South, and in a carefully argued appendix distinguishes their social organisation in the matter of *feudalism* (a horrid term, but it must pass) from that of the Lushais of whom we have a clear and full account by Colonel Shakespeare. There are, however, grounds for thinking that the Semas exhibit very close affinities with the group of peoples of whom the Lushais are the best known representatives. It is true that the Lushai "bhoi" system and the Sema system of "mughemi" are not nowadays identical, but they are both intimately connected with the migratory habits of the people, with their dependence on the jhum method of agriculture. The AI rites performed by a Lushai to get power over the spirit of a tiger that has been killed are rites to prevent the tiger's ghost causing trouble (Shakespeare, p. 78). A Sema holds that "as long as he keeps lightly and wakefully on an uncomfortable bamboo "bed, the soul of the dead beast can do him no harm." He is subjected to food gennas. Again, the genna posts, of which a picture is given on page 37, are very similar to the Khawtlang posts pictured in Colonel Shakespeare's book (on page 65). The Lushai Thangchhuah feasts are similar to the Sema feasts. It will be remembered that among the old Kuki clans described by Colonel Shakespeare are clans

* My brackets.—T. C. H.

who are divided into exogamous units such that the normal marriage (as also with the Kachins as a result of the same system of social organisation) is between the mother's brother's daughter (for the man) and the father's sister's son (for the woman). As we know, among the Garos the mother's brother is, in many cases, the husband of the father's sister, this resulting from their dual organisation. The Sema system is not "cross cousin" marriage as is the Garo custom. The "cycle" marriage system, as found among the Tarau and the Kachins, results in the marriages of the sons with girls of a definite group, while the daughters become the wives of the men of a different, a third, group, never marrying into the group which finds wives for their brothers—a most interesting feature of social organisation which seems to have left its mark on Sema society. Of the chapter on language, I can only say that the philologist who wishes to understand the processes by which dialects spring up should mark its contents. The book is full throughout of material of the utmost scientific value, carefully recorded and set forth with skill, nor in my commendation of this notable addition to our knowledge should I forget the foreword written by Mr. Henry Balfour, for I agree that this book "will command the appreciation and respect of ethnologists."

T. C. HODSON.

Africa, West: Linguistics.

Laman.

The Musical Accent or Intonation in the Kongo Language. By K. E. Laman. 100
Stockholm: Svenska Missionsförbundet Förlag. N.D.

Three years ago, in conversation with some Baptist missionaries from the Congo, I learnt that the conjugation of the verb presented some difficulties that they had struggled with, but never fathomed. My suggestion that tones were the explanation is amply borne out by Laman's thorough work, which should dispose once for all of the view that musical tones are of minor importance in Bantu. If they have been overlooked in a language so long and so well known there is every probability that research will disclose their presence over a wide field.

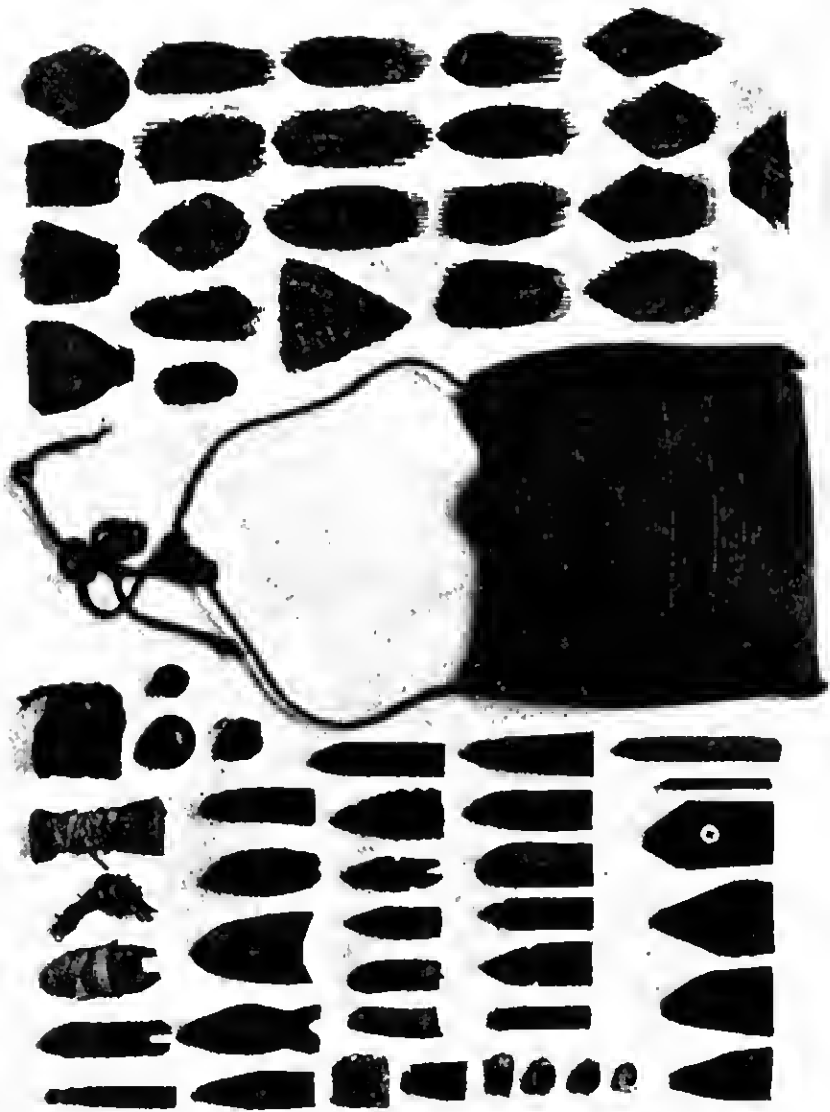
Laman's data are in many respects closely parallel to those which are recorded for the Ibo (*Report*, V.), but he distinguishes six, not five, simple tones. Unhappily his system of notation is not wholly commendable, though it indicates the tone graphically up to a certain point; it is practically inconvenient to put tone signs half above, half below the vowel; and *á* *à* for rising and falling tones conflict with present practice.

Writing in English Mr. Laman has had to struggle with difficulties in terminology; he might well, for example, have made use of the names "sharpened" and "flattened" for cases in which a brief tone, a quarter-tone lower or higher, precedes the main syllable-tone.

A summary even of all the discoveries here set forth would be lengthy. No student of African languages can afford to neglect this work. N. W. THOMAS.

ANTHROPOLOGICAL NOTE.

International Congress of Americanists.—The Congress held in Rio de Janeiro in August last was well attended and, largely owing to the untiring efforts of Dr. Simoens da Silva, proved very successful. A large number of papers was presented to the Congress, which will be printed with the assistance of the Brazilian Government. The Congress in 1924 will be held in two sessions, one at the Hague on the invitation of the Dutch Government, and the second at Bergen, where Baron Erland Nordenskiöld is in charge of the Museum. 101



SORCERY IN THE BAGAM AREA, CENTRAL CAMEROON, WEST AFRICA.

ORIGINAL ARTICLES.

With Plate M.

Africa, West: Magic.

Malcolm.

Notes on Sorcery in the Bagam Area, Central Cameroon, West Africa. By L. W. G. Malcolm.**102**

Throughout the Bagam area there is a great fear of the power of the sorcerer. It is believed that certain persons, by making use of natural objects, may obtain a power over the ghost (*mizziñ*) of a man and may do him harm in a variety of ways. Sometimes his ghost may be taken away by means of secret magical processes which are known only to the sorcerer. If an enemy makes representations to the sorcerer that a certain man has done him an injury, then by means of incantations and certain procedures this man's ghost can be captured, and he will die. His second, or personal, soul (*pforseti*) will then go to the home of the dead (*ñgwu iyāp*) in the usual manner.

It is believed that a man's ghost can leave him during sleep and, as will be described elsewhere, can enter into a wild cat or owl, and these are capable of making themselves so small that they can enter through a person's mouth, go down the windpipe, and destroy the liver, so that the man will die in his sleep. Missionary Striebel confirms what my interpreter told me, that if a man is suspected of being a victim of such a death, then the head of his compound will open the corpse and examine the liver. If it has an abnormal appearance, the man is believed to have died as the result of sorcery. If there are any strangers in the compound, they are at once suspected. If the deceased is known to have an enemy, he also may be accused of the misdeed. As Striebel points out, the accused very naturally denies any knowledge of the affair, as sorcery is always punished by death. To prove his innocence he must undergo the ordeal by poison. The head man of the compound takes him to the head-chief's compound, where the poison cup is kept. If after drinking the poison he vomits, then he is innocent; but if guilty he does not vomit, and must undergo the death punishment.

Other ordeals in use are administered by means of heated resin, or by cowry shells. A quantity of resin is collected, and heated in an earthenware pot. The suspected person is made to plunge his right index finger into the molten mass and then draw it out. If it is uninjured, he is innocent; if it is burnt up to the nail, he is guilty and must suffer death.

The ordeal by means of the cowry shell is only used for minor offences, such as the theft of some small article. The accused is taken before one of the headmen of the town, who acts as the judge. A cowry shell is placed under one of his eyelids, and the headman taps him on the forehead and says, "If you are a thief, then the cowry shell (*mbuun*) will stay under your eyelid; if you are not, then it will fall out." If it stays fast, the man is punished.

As Striebel says, the men who administer the poison cup and place the cowry shell have a great deal of power in their hands. It is known that in certain cases the poison has been well diluted, so that when the accused man drinks it he vomits almost immediately. It is also well known that, in the preparation of the heated resin, care has been taken not to make it too hot. The cowry shell can also be adjusted so that it will fall out quite easily. My interpreter, who was a headman, told me about some of these ordeals, and it appeared that he regarded them all with a certain amount of amusement.

As already mentioned, the fear of the sorcerer among the common people of the tribe is a very real one. Unusual events are placed to his account, and there is a continual fear that someone or other is attempting to do them an ill-service or to make them die. If a man sees another in a dream, then early next morning he seeks him out and accuses him of sorcery.

Closely connected with this belief amongst the *Eyāp* is that of the power of the ghosts not only of the living, but also of the dead. These ghosts may be either beneficent or malevolent; and in another place I hope to describe how the latter are believed to be able to enter into various animals, destroy crops, and kill people.

The chief of a neighbouring village sent to me one day in 1917, and said that one of his townpeople had "witched" two other and that they had died. In effect, he believed that this man's ghost had gone to these people and had caused their deaths. As the men were already dead, I suspected that they had been poisoned, and according to my interpreter this is actually what had happened. The suspect was arrested, and died on his way to the gaol. This was regarded by his fellow-townsmen as a proof that the ghosts of the men he was alleged to have "witched" had returned and caused his death.

On another occasion a man from the neighbouring village of Bamunkunho came to me and said that he had had to flee from his town, as the Chief and several of his attendants had attempted to take his life. On going carefully into the matter, the Chief informed me that this man had attempted to "witch" some of the men in his tribe by means of divination. I obtained this sorcerer's bag, and on examining it found that it contained a number of miscellaneous objects. The majority of them were very small strips and threads of raphia palm sewn together, pieces of gourds shaped like fishes, an empty cartridge case containing a gum mixture, a couple of cowry shells with the same, a small cloth packet containing gourd seeds, and a couple of leaves with small objects tied to them. These were contained in a small grass bag (Pl. M), which was never out of the sorcerer's sight. The signs on these objects were not known to anyone but the sorcerer. There were two methods of using them. The first was to place a certain number of them on an antbed, which later on would be visited, and the moving of some of them would have a certain significance, but to the sorcerer only. My interpreter said that this was a foolish method, because it would be only natural that the ants would take those objects which had been smeared with bees-wax and honey.

The second method used is very similar to that described by Weissenborn,* as practised by the Indikibu, Jaunde and other tribes of South-East Cameroon. If it is wished to find out who has committed a crime, the sorcerer is consulted, and he goes to a place where a burrowing animal such as a field-spider (Jaunde, *ingam*) has made a hole in the ground. He takes a number of objects, such as pieces of wood and leaves, and makes a circle of them around the mouth of the hole. Early next morning he pays a visit to the place and reads the signs, whether good or evil, according to what has been drawn into the hole. Here again the client is very much at the mercy of this man, and unless a sufficient sum has been paid the result will not be to his advantage.

L. W. G. MALCOLM.

Assam: Technology.

Hutton.

A Konyak Naga Snare. By J. H. Hutton.

The snare shown in the accompanying drawing is one in use among the Konyak Naga tribes in the north of the Naga Hills. The principle is that of a pair of scissors with one blade fixed and the other depressed on to it, on release by a hammoo spring. Of the two blades (*ab*, *ac*) the one (*ac*) is fixed in, and the other (*ab*) moves in a slot in a segment of bamboo (*gj*); the moving blade has a notch at (*f*) into which one end of the bamboo spring (*fe*) is fitted; to the other end of the spring (*e*) a cord in the form of a strip of plant cane bark is attached. The other end of this cord enters the hammoo segment at (*g*), and emerges from it and is attached to it by being loosely

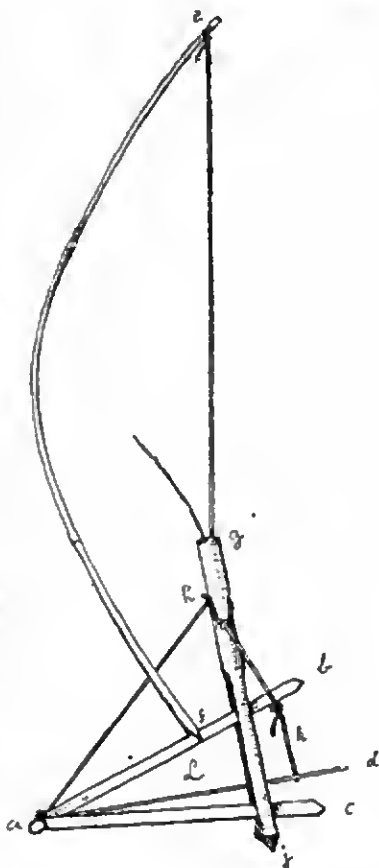
* Weissenborn, J., "Tierkult in Afrika," *Int. Arch. für Ethnogr.*, Bd. XVII, 1905, p. 149.

knotted round one side of it through a hole (at *h*) cut through the bamboo above the top of the slot, and is attached at the other end to the joint (at *a*) of the scissor-blades. To the hole (at *h*) above the slot another piece of similar cord is tied, attaching the peg used to set the trap. This is done by hitching up the movable blade (*ab*) on the peg (*k*), and keeping the latter in place by a piece of thin bamboo (*ad*) loosely inserted in the joint of the blades (at *a*) and just catching the end of the peg, which presses it against the side of the slot. The animal or bird which passes through the triangle (*l*) set in its path, depresses the stick (*ad*) and releases the peg, when the upper blade of the scissors closes with a snap powerful enough to cut in two an ordinary lead pencil, and not quickly forgotten by anyone who has trapped his fingers in it.

I have not so far met with this snare outside the Konyak country. It seems possible that it is related, however, to the form depicted on p. 88 of *The Angami Nagas*, a form common throughout the Naga country and found also elsewhere in Assam and in Borneo.

Specimens of the Konyak snare are being taken for the Pitt Rivers Museum by Mr. Balfour, who was kind enough to make me the accompanying sketch.

J. H. HUTTON.



Europe: Archæology.

Burkitt.

Notes on the Chronology of the Ice Age. By Miles C. Burkitt.

104

The problem of the correlation of the various archaeological divisions with the geological record has long been a matter of considerable interest to Englishmen. This is not surprising, as our country is in some ways specially suitable for study on these lines. Though the investigation in England of the Great Ice Age and Man's relation to it is rendered more difficult by complications due to earth movement in some parts of the country and is therefore more puzzling than in regions further south, such as the Pyrenees; on the other hand, owing to its latitude it will probably give us greater information. In tackling the problem of the more complicated region we must not, however, neglect the knowledge gained elsewhere. In view of the fact that writers like H. Peake and others have lately been drawing up systems of correlation it may be useful to recapitulate what appear to the writer assured conclusions gained abroad. The object is not to elaborate an English system made to fit exactly with a foreign one—that would indeed be an unscientific proceeding—but an attempt will be made to demonstrate a common datum line from which to work by showing that the Chalky Boulder Clay is probably to be correlated with the last glaciation (Würmian) abroad. Holst apparently suggested this when he was in England, and, independently, the writer published it last year in "Prehistory." Peake, in his table of classification* (which is extraordinarily

* MAN, 1922, 5.

interesting, and, though perhaps a little audacious in the minutiae to which it is carried, may very likely be right in many points), accepts this datum line. Still more recently L. S. Palmer, in his article on the Hampshire gravels,* assumes the same line.

The following seem to the writer the more or less incontrovertible data that may be gained from abroad :—

A.—(1) Lower Palæolithic implements have been found in deposits resting on the moraine of the last glaciation but one, while outside the area reached by the last glaciation, which was not so extensive.† The best example of this is at Conliège, 5 kilometres south-east of Lons-le-Saulnier, Jura. An implement was discovered near the road that runs from Conliège to Briod, embedded in a matrix of stones and clay which rested on the bedrock of the plateau. Elsewhere this matrix of Conliège, when in superposition, rests on the moraine of the last glaciation but one, for this district is well within the limits of this glaciation. The deposit and the contained implement are, therefore, of more recent date than the last glaciation but one.

(2) In the Pyrenees (Garonne Valley) the glaciations have left glacio-fluvial river terraces at various heights along the margins of valleys. Acheulean implements have been found in a deposit resting on the gravels of the bottom terrace but one.

Conclusion.—A part, at any rate, of the Lower Palæolithic is post-Riss. Now the relative chronology of the archaeological divisions in France shows us a Cholleian with a warm fauna underlying an Acheulean with a cooler fauna. It is logical, therefore, to add to the above conclusion that in the warmest times between the Riss and the Würm the Cholleian culture was flourishing and was followed, as the cold of the Würmian glaciation began to be felt, by the Acheulean, which appears to be only a development of the Cholleian.

This conclusion, however, is only strictly applicable to the Western fringe of Europe, for the *coup-de-poing* culture (our Lower Palæolithic) does not seem to have extended over the whole of Europe. It is very rarely found in Belgium, except on the French frontier (near Mons), and the same is true of Germany. At a time when the Acheulean, and at any rate the later Cholleian, flourished in France and England it would seem that cultures that can only be described as proto-Mousterian were developing elsewhere. This is the so-called warm Mousterian, advance guards of which penetrated now and then into the Acheulean world of France and perhaps of eastern England, replacing in such cases the Acheulean industries.

It can hardly be admitted, however, that the Cholleian industries, comprising skillfully-made tools, are the first manifestations of this culture, and indeed tools of the same nature, but more roughly made, are found in the upper terraces of the Somme Valley. This forms the so-called pre-Cholleian, which may well date back to some warm interval before Riss times. It is probable that when further knowledge is gained more careful distinction will have to be made between the Lower Palæolithic cultures which fall in the Riss-Würm interglaciation and those which are earlier.

B.—(1) Just off the Ariège Valley, in the Pyrenees to the west of Tarascon-en-Ariège, lies the Soudour hill. High up on its side opens the cave of Bouchiéta. This cave contains the *débris* of a moraine, presumably of Riss age, for the moraines of the less intense Würmian glaciation lie far below. In Riss times, when the glaciers nearly filled the valley, the cave was below their level; the Würm ice could not enter and scour out the cave, which then opened in the sides of a Nunatak far above the level of the ice.‡ A deposit resting on the moraine in the cave contains

* MAN, 1922, 64.

† This is not the place to go into the problem of Penck's fourfold and Boule's threefold systems of glaciation; in both systems the last two glaciations are the same.

‡ It would have happened otherwise, for the cave faces in the direction from whence the glacier came.

Mousterian implements. The Mousterian must, therefore, be post-Rissian. But the relative chronology shows the Mousterian as occurring (normally with a reindeer fauna) after the Acheulean. It must, therefore, be correlated with Würmian times.

(2) At the cave of Cotencher, Neuchâtel, Mousterian implements occur in a glacial deposit of Würmian age. The cave lies within the limit of the glacier and under its maximum height. But there is no reason against the assumption that the deposits (obviously anterior to the maximum cold of the Würm) were frozen in, when, unless the opening faced an advancing glacier, they would not be scoured out.

Conclusion.—From all this it appears certain that a Würmian date must be assigned to the Mousterian. Whether the cultures flourished just before, during, or just after, remains a problem. The writer believes that the Mousterian straddled across Würmian times and that in some localities it will be found just before, in some during, and in others just after.

C.—There was one specially cold moment in early post-Würmian times. At this time (Bühl) the reindeer reached as far south as Mentone; if there had been more moisture in the air there might even have been another glacial maximum. Possibly this may have been the case in more northerly latitudes, and it is more than likely that the anomalous drifts of Upper Palæolithic age found in certain caves in North Wales may thus be accounted for.

Magdalenian deposits have been found resting on moraines of the Würmian glaciation.

Conclusion.—The culture is post-Würmian, and, from the above considerations, must be assigned to the Bühl epoch.

It is not the intention of the writer to attempt an application of the above conclusions to all the latest English work. The few notes which are added seem, however, to tally with the results of more recent explorations.

With the researches of Reid Moir on Tertiary Man we are not here concerned. As regards Quaternary times in East Anglia, evidence seems to point to two drifts of different age, with interglacial sands and gravels between them; these are the Contorted Drift, the Chalky Boulder Clay, and the Mid-glacials. It is not to be expected that in these more northerly latitudes, where the mean annual temperature was certainly lower, that interglacial deposits would show as warm a temperature as those further south in France. The researches of Professor Marr and Reid Moir go to prove increasingly that the Mousterian is in close association with the Chalky Boulder Clay; probably, in the Ipswich district, just prior to its maximum. Exploration at Derby Road, Ipswich, and at the Traveller's Rest pit (Cambridge), seems to demonstrate that the Acheulean and the Chellean date from interglacial times.*

The well-known Lea Valley arctic deposits, from which actual drift is absent, may well be correlated with the Bühl. Magdalenian industries are absent; they seem, indeed, to be absent from England as a whole, with the exception of one or two places in the south-west, and even in these the Magdalenian is very evolved; the harpoon from Burrington Coombe is of Magdalenian 6 (b) age!

Most of our Upper Palæolithic industries appear, as far as has yet been discovered, to be Aurignacian in various stages of development, and would thus correspond to the industries of the Grotte des Enfants, Mentone. It is true, however, to say that there was Solutrean influence during a brief time in our Upper Palæolithic period:

* To what age are we to assign the Boulder Clay underlying the Hoxne deposits? Perhaps to the Contorted Drift age? In the case of the Biddenham deposits, it is probable that the Chalky Boulder Clay of the plateau sagged down into the valley on to the Lower Palæolithic gravels, and that the postglacial river has worn it away and even cut its bed down through the underlying gravels to the Cornbrash. (See the writer's "Prehistory").

as is very evident when studying the industries from Kent's Hole, Torquay. If rich Upper Palæolithic sites are ever discovered in Eastern England this Solutroan influence may prove very useful as a dividing datum line.

As stated in the beginning of the article, complication due to Earth Movement is continually arising, but this subject is also outside our scope. The articles of Professor Marr on this subject are, however, illuminating. M. C. BURKITT.

Europe: Archæology.

Warren.

Man and the Ice Age. By S. Hazzledine Warren, F.G.S.

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In the report of the discussion at the British Association (MAN, 1922, 89) it is stated that I "denied the possibility of correlation with the Continental data." As I think this might be misunderstood, may I explain my view more adequately.

There are so many unsolved problems before us, that I have not yet been able to get a correlation which is satisfactory to myself, but I consider that the aim and endeavour to reach such a correlation is the only sound attitude: the British problem is an integral fraction of the Continental.

The Mousterian epoch is critical in many respects. I am not satisfied that this epoch was associated with any important glaciation in spite of those evidences which seem to support that view. I feel that the temperate plant beds of Stoke Newington and Repton are more reliable than the migrating animals in giving us an insight into the climatic conditions. But even the migrating animals point to greater cold during the Magdalenian than during the Mousterian. During the Mousterian epoch the southern fauna (*Elephas antiquus*, *Rhinoceros merckii*, etc.) still flourished at Mentone; the Arctic fauna did not reach its most southern extension until later, in the true "Reindeer Age," a name which is significant in itself.

The same is true of south-eastern England, the Mousterian, although colder than the preceding epoch, was much less cold than the Ponder's End stage which succeeded it.

It may be correct that the Mousterian is contemporary with the Würmian; if so, then the Würmian must represent an advance of the ice on the more elevated areas (possibly due to increased precipitation) which did not involve a glaciation of the lowlands, and none of the wide-spread Boulder Clays can be correlated with this stage.

I am so far in agreement with Mr. Kennard's reading of the palæontological evidence—namely, that the Magdalenian *plus* Ponder's End is the only seriously cold stage of which there is any evidence in Western Europe since Chellian times. I take it as inevitable that this stage must have been accompanied by extensive snow fields and valley glaciers in the more northern and more elevated parts of Britain, but it seems to me quite impossible to correlate the major glaciation, or glaciations, of the country with the same stage.

My tentative suggestion of correlation, which is expressly intended to emphasise alternatives and uncertainties, would be as follows:—

Period.	Minor Ice Ages, etc.	Broader Grouping.
Magdalenian	Buhl (?? + Würm). Moraines in Scotland, etc. (?? + Hesslo Boulder Clay)	= LATE GLACIAL.
Aurignacian	?	} INTERGLACIAL.
Mousterian	? Würm. Alpine advance of ice.	
Acheulian	
Chellian	
Pre-Chellian	

Period.	Minor Ice Ages, etc.	Broader Grouping.
(? Hesse Clay)	?? Würm	GLACIAL.
Chalky Boulder Clay	Riss (?? + Würm)	
Middle Glacial Sands	?? Interglacial	
North Sea Drift	Mindel	
Forest Bed	Interglacial, if Gunz of any value: otherwise	[Pre-Glacial.
Chillesford-Weybourne	? Gunz.	

I do not think that leaves too many open alternatives, or too many queries, for the present state of knowledge. I concluded my remarks at the British Association by saying that (in order to establish a reliable correlation) we needed "more facts and less theory."

S. HAZZLEDINE WARREN.

Africa, East: Technology.

Thomas.

Notes upon a Somali Quiver in the Museum of the Royal Geographical Society of Egypt at Cairo. By Ernest S. Thomas.

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The quiver is of light wood of a well-known type (Fig. 1), but instead of being concave cylindrical, the upper part is slightly convex. The wood has been hollowed right through. The length is $43\frac{1}{2}$ cms., and the diameters of top and bottom are, roughly, $7\frac{1}{2}$ and $8\frac{1}{2}$ cms. respectively. The surface is very neatly covered (closing the bottom) to within 7 cms. of the top with a seamless yellow membrane, probably bull's penis, and is fitted with a neatly made leather cover 5 cms. deep, shaped out of a single piece of leather. The membrane has been drawn over two narrow bands

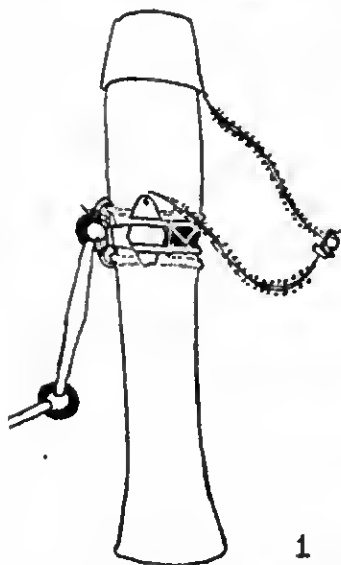


FIG. 1.—SOMALI QUIVER (?).

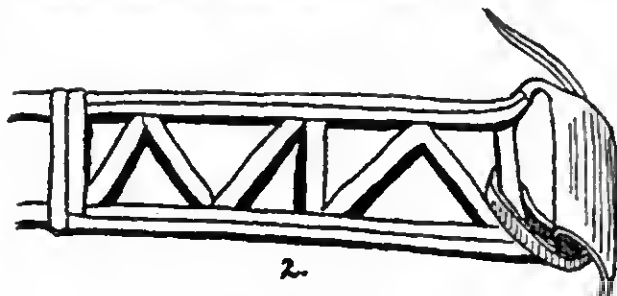


FIG. 2.—LEATHER BAND OF OPENWORK.

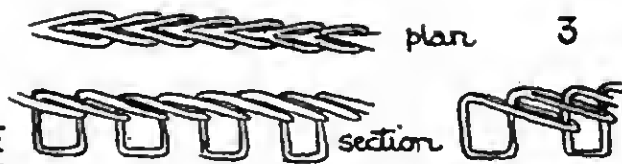


FIG. 3.—SECTION OF OPENWORK PATTERN.

of leather (?) 3 cms. apart, encircling the waist of the quiver, forming two smooth ridges. Between these a leather band is fastened about the quiver filling the space. Half this band is plain leather, and is slit horizontally into three strips. Over the middle and under the narrower, upper and lower, strips an ovoid flat greyish stone (sandstone) has been inserted and firmly wedged ($10 \times 4\frac{1}{2} \times 1\frac{1}{2}$ cms.). This, no doubt, served as a sharpening stone for the rough dagger which is attached to the quiver by a leather-and-ring chain, the terminal ring being tied to the quiver by a leather lace threaded in two places through the membrane under the two bands beneath the membrane.

The other half of the band is of leather openwork, of design shown in Fig. 2. The strips in the pattern are 2 to 3 mms. wide and are covered with what looks like plaits of fine leather strands, barely a millimetre broad. The pattern is in reality composed of interthreaded loops, between 3 and 4 to the centimeter; the loops being formed by delicately slitting short lengths of the millimeter strands at each end, and then passing one of the loops so formed through the leather and then through the centre of the other loop forwards (Fig. 3). The openwork pattern was set off by a backing of rod stuff, of which only fragments remain.

The stone above-mentioned is perforated at the top, and the end of a length of lanyard passes through it, with a terminal knot. At the other end is a leather roll-knot. It is attached to a similar length (about 19 cms.) of lanyard fastened to the rim of the quiver cap, which terminates at the other end in a roll ring. Through this a lace passes which is wrapped and knotted about the roll-knot of the other length, thus attaching the cap to the stone. This lanyard is a tight double plait of five strands of leather 1 millimeter thick (diameter). The plait is barely 5 mms. broad and 2 mms. thick, and is edged with a roll of loops of about 4 mms. outer diameter and 2 mms. breadth.

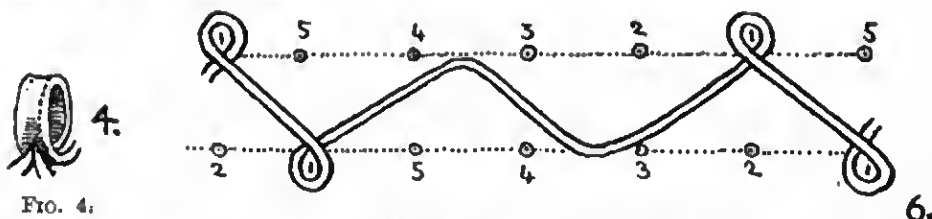


FIG. 6.—RUN OF A SINGLE STRAND.

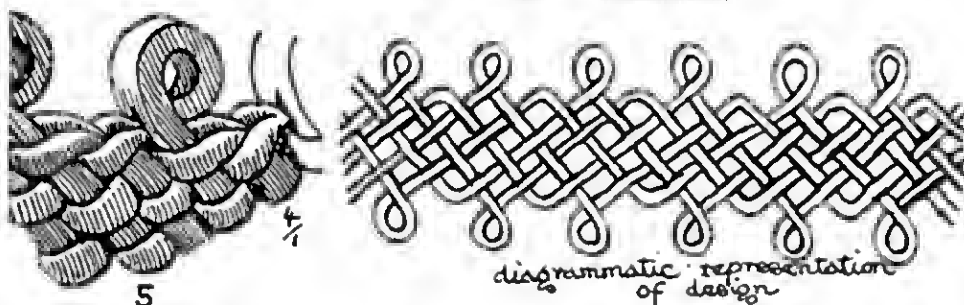


FIG. 5.—ENLARGED DRAWING OF THE PLAITS.

FIG. 7.

They are at comparatively irregular intervals of from 5 to 8 mms. The tops of these loops are in one piece, and it is evident that the millimeter strands have been out from 2 mm. strips, but not right through, spaces being left at intervals to form the loops, as in every loop one arm passes through the other (Fig. 4). The strands are remarkably uniform in width right through.

Fig. 5 is an enlarged drawing of a part of the plait, and the run of a single strand is shown in Fig. 6, the dots being the positions of other loops.

There are 27 loops in one length of the lanyard and 26 in the other. The loops held small red seeds, of which the majority are *in situ*. At the termination of the loops the plaits are neatly continued and tailed off.

The skilful and delicate handicraft displayed in the leather work above described is very remarkable.

The arrows in the quiver call for no special comment.

ERNEST S. THOMAS.

Africa, South : Physical Anthropology.

Shrubsall.

A Note on Bushman Craniology. By F. C. Shrubsall, M.A., M.D.

107

On several occasions in past years I have communicated to the Institute the results of observations on the cranial and osteological features of the Bushman and Hottentot peoples of South Africa. These have been published in detail in the *J.A.I.*, Vol. XXVII, 1898, p. 263 *seq.*, and in Volumes V and VIII of the annals of the South African Museum, Capetown. On those occasions it was necessary to emphasise the difficulties that had arisen owing to doubts as to the exact origin of some of the specimens. Since then additional and more clearly authenticated material has been placed at my disposal by Dr. Peringuey of the South African Museum, by the Directors of the Albany Museum, Grahamstown, and of the McGregor Memorial Museum, Kimberley, to whom my best thanks are due. A short summary of the data may be of interest. The material may be classified in four groups :—

(1) Specimens from the caves and shellheaps along the eastern and southern coasts of Cape Colony from the Orange to the Kei rivers. These belong to the group previously described as Strandloopers. Most, if not all, were found under conditions indicating definite burial and with associations which point to their originating from the Bushman or their predecessors.

(2) Specimens of Colonial Bushmen from various districts extending from the Cape to Gordonia. In most cases they could be ascribed with reasonable certainty as belonging to particular tribes, and appearing to represent the greatest available purity of stock.

(3) Specimens from the Kalahari peoples. These show many degenerate features, such as overcrowding of the jaws and displacement of the teeth, and variability in size of bones, which may indicate a certain degree of racial intermixture.

(4) Hottentots, most of the material being from definite graves, but part sent home in earlier years by the Army Medical Service as a result of engagements between the troops and known native tribes.

The average dimensions and the probable errors are shown for each group in the following tables :—

I.

MALES.	Coast Caves and Shell Heaps.	Cape or Southern Bush.	Kalahari Bush.	Hottentots.
Number	45	62	19	28
Maximum L. . . .	180.9 ± .5	179.4 ± .2	180.7 ± 1.1	184.0 ± .6
Maximum B. . . .	138.0 ± .4	134.4 ± .4	134.1 ± .8	133.4 ± .6
Basi-Breg. H. . . .	123.8 ± .6	124.9 ± .5	126.0 ± 1.2	131.8 ± .7
Naso-Alv. H. . . .	80.1 ± .5	61.0 ± .4	62.9 ± .6	65.4 ± .5
Bi-Zygom. B. . . .	123.0 ± .7	123.0 ± .6	127.6 ± .7	126.3 ± .7
Nasal H.	43.0 ± .4	42.8 ± .3	44.6 ± .4	45.3 ± .4
Nasal B.	24.9 ± .2	25.9 ± .2	26.4 ± .3	26.7 ± .3
Basi-Nasal L. . . .	94.0 ± .5	95.5 ± .4	97.2 ± .8	99.1 ± .6
Basi-Alv. L. . . .	92.3 ± .6	94.5 ± .5	96.8 ± 1.0	100.2 ± .7
% subnasal Prognathism .	7.1	9.4	13.8	10.2

II.

FEMALES.	Coast Caves and Shell Heaps.	Cape or Southern Bush.	Kalahari Bush.	Hottentots.
Number	20	10	17	10
Maximum L. . . .	172.1 \pm .7	173.1 \pm .7	172.1 \pm 1.1	175.8 \pm .8
Maximum B. . . .	135.2 \pm .7	131.9 \pm .0	129.8 \pm .7	132.0 \pm .7
Basi-Breg. H. . . .	121.3 \pm .5	120.3 \pm .7	121.5 \pm 1.1	123.7 \pm .3
Naso-Alv. A. . . .	50.4 \pm .7	57.8 \pm .5	60.6 \pm 1.1	60.5 \pm .7
Bi-Zygom. B. . . .	119.0 \pm 1.1	116.8 \pm 1.1	119.0 \pm .8	120.1 \pm 1.8
Nasal H.	40.9 \pm .5	41.5 \pm .5	40.8 \pm .7	44.0 \pm .4
Nasal B.	23.7 \pm .2	24.1 \pm .3	26.0 \pm .4	25.7 \pm .4
Basi-Nasal L. . . .	90.3 \pm .5	90.6 \pm .7	93.8 \pm .8	94.2 \pm .8
Basi-Alv. L. . . .	88.7 \pm .6	89.0 \pm .7	93.0 \pm .7	92.8 \pm 1.0

III.

—	Caves, Shell Heaps, and Shelters.	Cape or Southern Bush.	Kalahari Bush.	Hottentot.
Measurement	—	—	—	—
Stature: (estimated)				
Male	1,544	1,565	1,501	1,611
Female	1,512	1,422	1,431	1,491

From these it will appear that the Hottentot skull is longer, narrower and higher and more prognathous than that of the Bushman. The skulls from the shell-heaps are somewhat broader and of greater capacity than those of the modern Bushmen, whilst the older specimens, such as those from Coldstream near Humansdorp, are larger than those from caves which appear to have been more recently inhabited at Knysna. It may be noted, however, that the feature of the smaller height of the skull and the orthognathism which serves to distinguish the Bushman from the Hottentot is as marked, if not more marked, in the cave specimens.

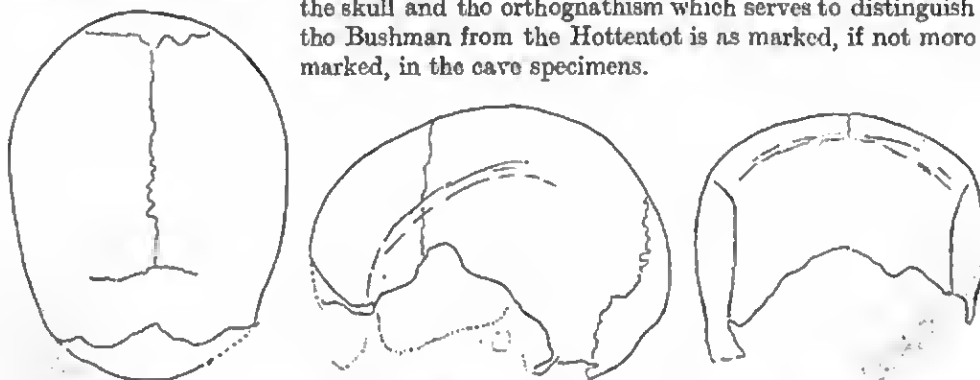


FIG. 1.—OUTLINE OF CALVARIUM FROM CAVE AT COLDSTREAM, C.O.

A calvarium found deeply buried in a cave deposit at the Coldstream cave near Humansdorp, in a partly fossilised condition, but too damaged to permit of

many measurements (estimated : L. 191, B. 147, H. 120), appears to be the largest cave skull yet found and forms a connecting link between this type and the Boskop skull. Like the latter, the skull from Coldstream is distinguished by the great thickness of the bone, amounting to 11-12 millimetres over a large part of the vault. A study of the outlines of the crania made by the use of a Lucas's Orthograph show that the skulls from the cave burials and the Bushmen differ from the Hottentots in the greater flattening of the vault and of the occipital region and in a greater development of the parietal region. In both the frontal region is poorly filled out. It is possible that the greater development in regions corresponding to the sensory association areas of the brain may be associated with the superior artistic attainments of the Bushmen.

While there is a certain general resemblance in outline between the Bushmen and the Hottentot crania, the feature is less noted in specimens of the latter from the north of the Orange river, and it may well be that this is due to admixture of Bushman blood by the seizure of the females as the Hottentot tribes worked their way southwards, as is described by the historians of Cape Colony. On the other hand the Hottentot tribes to the north and east may have, to a considerable extent, intermarried with Bantu-speaking peoples of the central group.

F. C. SHRUBSALL.

Ireland: Folklore.

Andrews.

A Legend of St. Brigid. By Elizabeth Andrews.

108

In further reference to the spring feature of St. Brigid* I am indebted to Miss Delap for a curious legend from Valentia Island which, with fine disregard of chronology, makes St. Brigid a friend of the Virgin Mary. It is said that when the Virgin was shy about facing the congregation in the Temple, St. Brigid procured a harrow, took out the spikes and, putting a candle in every hole, placed it on her head, walked up before the Virgin and escorted her down again. According to another version, which it is believed came from the north of Ireland, it was a hoop with lighted candles which the Saint wore as she danced up the aisle before the Virgin and down again. For this service St. Brigid's Day is the eve of Candlemas, or the Purification of the Virgin.

ELIZABETH ANDREWS.

REVIEWS.

England: Sociology.

Peake.

The English Village, the Origin and Decay of its Community. An Anthropological Interpretation. By H. J. E. Peake. London: Benn Bros., 1922. Pp. 251. 22 x 15 cm. Price 15s.

109

The author's well-known position is that anthropology includes the study not only of nature-folk and of prehistoric times but of ourselves and our social organisms. Whereas history in its present state of development confines itself too much to the written document, anthropology may study the living organism or its works and their distribution. Of the value of this attitude for the refreshing of thought there can be little doubt and it holds within it the potentiality of a more truly scientific sociology and social psychology for the future.

In the present work the author tries to argue out the origins of the village and its agricultural community as it existed in early mediæval times. This leads him to attempt a short but balanced account of the early racial history of Europe as well as of early social organisation. In this last it is interesting to note that he has shaken himself free from the traditional view that there is an almost inevitable sequence from hunting to shepherding and from shepherding to agriculture.

* See MAN, 1922, 34, p. 51.

Pumpelly's evidence from Anau as well as the study of the lake-dwellings of Switzerland make it most probable that in both cases the beginning of cultivation was earlier than the domestication of animals; its origins are on the outskirts of the forest, whereas those of shepherding are on the park lands. The early cultivators of the lake-village culture in Switzerland are the prototype of the Alpine races. Mr. Peake argues from their present characteristics back to their early days, with some justification so far as inferences can be made from their remains. They are home-loving democrats, with an outlook that is on the whole peaceable, communal and municipal, rather than bellicose and imperial. It is in the Alpine region that Mr. Peake thinks the village community began in neolithic times. Later on he thinks this early village-civilisation was dominated by warriors who had come from the steppes and who kept themselves aloof. The movements of these warriors in the late Bronze Age are traced through study of the distribution of swords, but it is indicated that the matter will be more fully considered in a forthcoming book.

As regards Britain, Mr. Peake gives an effective summary of the work of the last twelve years or so on the early races of these islands in order to lead up to a statement of his views about the origins of our communities.

He thinks the "moorland village community" very old, and related to the advent of the "Beaker"-making immigrants about 2000 B.C. It was a pastoral community with small cultivation terraces and the community had a big strip of down or moorland pasture. The moorland community thus sketched is the forerunner of the corresponding communities in West Britain which have come down to our own times.

The Bronze swordsmen reached Britain about 1200 B.C. and probably brought peasants with them and began to clear the woodlands and to substitute valley villages for the moorland communities, to some extent at least. That this occurred chiefly on the English plain, but not to any extent in Wales or in areas of the megaliths and other traces of west-coast life, is the author's general view. On this view the incoming Belgæ of the Iron Age would represent a change of lordship rather than any new social organisation. Moorland settlements doubtless survived, and Mr. Peake agrees with Dr. Grundy that the hill-top camps are the "cities" of a pre-Roman period, doubtless with traces of cultivation around them. Whether there is evidence of small subdivision of the land is not yet clear, but, should it become clear, we are not thereby committed to a belief that the same system affected the valley-community at its origin. So far there is only a very moderate amount of evidence (from bronze finds, etc.) of woodland and valley clearing in Britain in the Bronze Age, though Mr. Peake has himself gathered some evidence on the Continent.

Seehorn, in his work on the village community, saw that certain features were probably of pre-Saxon date; Mr. Peake endeavours to show that the older element is due to the Bronze Swordsmen, with perhaps a still older background.

This represents a clear advance in thought all the more valuable because it is the work of the most practised specialist we have in the mapping of evidence and the development of arguments from ascertained distributions.

The book traces the Agricultural Village on through the centuries with a general acceptance of the orthodox historical views. The loss of soil fertility in the Middle Ages is accepted, as usually argued; but the reader should note that recent work throws some doubt on the general applicability of this view. The folding of stock—which had wandered in the wild—on the farms at night brought in manure, the origin of which was the pasture on the wild. That this folding was often poorly organised is, however, fairly probable. Mr. Peake has given many years to public service in rural England and his concluding sketch of the village's possible future should arouse interest. He believes we could do much for the same

prosperity of the country by taking steps towards the encouragement of villages of about one thousand people, so that there may be a miller, a smith, a schoolmaster, a few shopkeepers, a lawyer, a doctor, a bank, a contractor, a lending library and so on.

The book has an interesting bibliography, largely of recent work published in scientific journals.

H. J. FLEURE.

Papuo-Melanesia: Sociology.

Malinowski.

Argonauts of the Western Pacific. By Dr. B. Malinowski. With an Introduction by Sir James Frazar. London: George Routledge & Sons, Ltd. 1922. Illustrations and Maps. Pp. 518. Price 21s. net. **110**

In Chapter XL of "The Melanesians of British New Guinea," Dr. Seligman made brief reference to a peculiar trading custom carried on in the islands of the Massim District by means of a system of reciprocal agency—each head of a family having, as he was meagrely told, an appointed agent (*gumagi*) in the places visited whose duty it is to look out for good *bagi* (shell necklaces) and *moari* (shell bracelets). Dr. Seligman was quick to perceive that something important lay behind the custom, but the time at his disposal did not permit him to investigate it. He therefore had to content himself by remarking that the matter must form the basis of future enquiries. Having found the right man to undertake the investigation, Dr. Seligman—helped by the generosity of Mr. Robert Mond—set his project afoot, with the result that the volume now under notice presents us with as nearly complete an account as we are ever likely to have of an extremely interesting and instructive sociological institution, part economic, part ceremonial, pertaining to certain Papuo-Melanesian tribes who inhabit islands lying off the east end of British New Guinea. Previous publications by Dr. Malinowski, giving the result of his activities among certain Papuo-Melanesian tribes in the same region, had already shown the value and completeness of his work, and the present book fully sustains his reputation as a first-rate ethnologist. To give an adequate idea of the fund of information the book provides is beyond the scope of a short review. It is only possible here, therefore, to trace a bare and disjointed outline of its contents.

The Argonauts consist of some nine tribes of islanders occupying as many island groups. The sea area round about which these islands and archipelagoes are distributed forms, roughly speaking, an imperfect ring with a perimeter of approximately 750 miles. Each tribe has its own dialect—dialects which in some cases vary widely from one another, and the tribes differ also very materially in culture, and probably even in race. They have, however, one institution in common which welds them together—the Kula. The Kula, to quote the author's words, "is a form of exchange, of extensive, intertribal character; it is carried on by communities inhabiting a wide ring of islands which form a closed circuit. Along this route, articles of two kinds only are constantly travelling in opposite directions. In the direction of the hands of a clock moves constantly one of these kinds—long necklaces of red shell, called *soulava*.* In the opposite direction moves the other kind—bracelets of white shell called *mwali*.* Each of these articles, as it travels in its own direction on the closed circuit, meets on its way articles of the other class, and is constantly being exchanged for them. Every movement of the Kula articles, every detail of the transactions, is fixed and regulated by a set of traditional rules and conventions, and some acts of the Kula are accompanied by an elaborate magical ritual and public ceremonies."

* Equivalents in the Trobriand dialect for *bagi* and *moari*.

Dr. Malinowski made his headquarters at Kiriwina, the largest island of the Trobriand group; the most northerly point of the Kula circuit. Here he lived for two years in the native villages, and, possessing the invaluable gift to an ethnologist of picking up languages quickly, he was soon competent to converse with the Trobriand islanders in their own tongue. Equipped with this rare advantage, added to a sound ethnographic training, he was enabled to get into close touch with the native mentality, and so to grasp the meaning and importance of the Kula from the native's point of view. This book, therefore, not only gives in picturesque detail the visible aspect of the various scenes and ceremonies pertaining to the Kula, but sheds also much light upon the psychological mechanism on which the institution is based.

The exchange of the articles is carried out by the members of the Kula society of one tribe periodically visiting the island of another tribe in canoes sailing in fleets. Happy excitement reigns while preparations for the voyage are being made. The canoes are carefully overhauled; old ones which have become unsound are replaced by new ones. Every stage of the building, overhauling, fitting out and launching operations is surrounded with intricate magical ceremony, consisting in large part of the reciting of spells by magicians to ensure economic success, to impart speed to the canoes, and to render harmless the wickedness of flying witches, etc. On the arrival of a fleet at its destination, more magic is performed, followed by a ceremonial reception, after which the exchange of the *soulava* and *mwali* takes place. These exchanges are not haphazard transactions: each of the visitors has a limited number of overseas partners, and with these partners exclusively is he entitled to kula his goods. Such partnerships are lifelong relationships, and while a visitor is under the protection of his partner he feels himself safe from personal danger. The bracelets and necklaces thus acquired, to be temporarily owned, are never used as mediums of exchange or as measures of value for articles of any other kind. "The acts of exchange have to conform to a definite code. The main tenet of this declares that the transaction is not a bargain. The equivalence of the values exchanged is essential, but it must be the result of the repayer's own sense of what is due to custom and to his own dignity." Some of the finest of the Kula articles in circulation are known by nick-name to the members of the institution throughout the whole circuit; and the potentiality to each member of some day becoming the temporary owner of a fine specimen, and thus earning social distinction and renown, is an ever-present hope and longing.

The above imperfect outline will tend to show how novel and complex an institution the Kula is.

Ethnologists are deeply indebted to Dr. Malinowski for this highly important contribution to our knowledge of the natives of south-eastern New Guinea.

F. R. BARTON.

Peru : Archæology.

Tello.

Introducción á la Historia antigua del Peru. By Julio C. Tello : Ciudad de los Reyes del Peru (i.e., Lima). Editorial Euforión. 1921.

111

The author of this little brochure is undoubtedly Peru's most active and best-prepared anthropologist. He has training not only in medicine and physical anthropology, but also in archæology, and the good work done by him in those sciences has won for him a high reputation. But the present work will add no lustre to it.

The book has some value, however, on the chronological side of the problem of Andean archæology. Unfortunately, Dr. Tello's views as to pre-Hispanic chronology in Peru and Bolivia are neither clearly expressed, nor consistent with one another, nor adjusted to known facts. For example, on page 18, he dates his "Archaic

Era"—that in which the first stirrings of higher Andean culture took place—between 200 B.C. and 800 A.D. This attribution can be correct only in a qualified sense, for the works of Uhle, Reiss, Stuebel, Markham, Joyce, Hrdlička, Dorsey, Savillo, Jijón, Larrea, Von Buchwald, Means and others indicate very positively that cultures far from being of archaic type had begun to exist in Peru at least as early as the time of Christ. Nevertheless, certain groups of people, apparently isolated from the main current of cultural development, did remain "archaic" during Tello's period, and in that limited sense his dating is correct.

The greater part of the brochure is taken up with comments on the 26 plates which adorn the work. Many of the objects shown are in the wonderful collection of Don Victor Larco-Herrera, in Lima. Dr. Tello is, or was, keeper of that collection, and he quite properly makes acknowledgment in those cases when he uses material belonging to it. He is not so scrupulous, however, in other cases; for example, Plate XV represents a beautiful bit of tapestry in the late Tiahuanaco style of the Nasca Valley, probably of a date between 750 and 1000 A.D. Though Tello does not mention the fact, the original specimen is in the Boston Museum of Fine Arts, and acknowledgments ought to have been made to that Museum. Again, Plate XXV shows a large piece of cloth from Pisco. Tello does not mention its present whereabouts, but he knows perfectly well that he sold the original in 1916 to a well-known collector, who presented it to the Boston Museum of Fine Arts. Finally, Plate XXVI shows part of an object which has a quaint history. It is an early Chimú vessel found by Tello, I believe, in the Chicama Valley, near Trujillo. The design upon the pot was almost unique in that it represented a number of people weaving. This pot was published in MAN, for December, 1921, 106, by Mr. T. A. Joyce, who has made some curious discoveries concerning it. It appears that the vase was given to the British Museum in 1913 by Sir Herbert Gibson. Noticing some discrepancy in various parts of the design, Mr. Joyce subjected the vase to the soaking-in-water test and found out that it had been "mado-up" to a very considerable extent. The vase is now properly put together so as to show just what portions are original. One wonders, inevitably, who did the making-up, and we may reasonably assume that it was not done by the gentleman who gave the vase to the British Museum. Oddly enough, Dr. Tello says nothing of all this in his book.

The failure to make proper acknowledgments to owners of material used for illustrations, except in the case of the author's employer's specimens, is not the only lack in this brochure. Another is the fact that it has absolutely no footnotes or other bibliographical appendages. Possibly this is due to the fact that Dr. Tello is not very well acquainted with the literature of his subject.

In short, the sole value of this brochure, which promises to be so important, is that through its imperfectly documented illustrations it makes available for study by others various rather important specimens, all of chronological significance.

P. A. MEANS.

Melanesia: Depopulation.

Rivers.

Essays on the Depopulation of Melanesia. Edited by W. H. R. Rivers, M.D., F.R.S. With a preface by Sir Everard im Thurn, K.C.M.G., K.B.E., C.B. Cambridge: at the University Press, 1922. Pp. xviii + 116. Price, 6s. net.

A melancholy interest attaches to this little volume, the editing of which was almost the last piece of work completed by the late President of the Royal Anthropological Institute before his death. It is a collection of essays on present conditions in Melanesia, and particularly in the New Hebrides, by members of the Melanesian Mission and others, in which the authors attempt to account for the fall in the numbers of the native population. Those who are interested in the application of the results

of anthropological study to practical affairs will find much food for thought in these essays, which are written from a broad and impartial standpoint. In particular, the first two essays, by the Rev. W. J. Durrad and Dr. Felix Speiser, of Basle, present a valuable analysis of the effect of the decay of custom, after contact with civilisation, on social order and morality. They show how the weakening of the belief in the sacred power of the chief leads inevitably to the undermining of his authority and the consequent disintegration of customary law and order. Dr. Rivers contributed a concluding essay on the psychological factor, in which he gives it as his opinion that the most serious element in the situation is the lack of interest in life which has followed the suppression of such customs as head-hunting, by which a whole group of social activities connected with that custom has been taken out of the life of the Melanesian. He has pressed home the argument to its logical conclusion that, before any custom repugnant to civilised usage is suppressed, it is essential that its place in the social complex should be ascertained, lest, as in the case of Melanesia, worse harm befall. He suggests that such harmful effects might be averted by substitution, and that in the case of head-hunting an animal's head might be taken in place of that of a human victim. E. N. FALLAIZE.

ANTHROPOLOGICAL NOTE.

The Blue Men of the Hebrides.—Mr. David MacRitchie, in an article contributed to *The Scotsman* of August 8th last, has offered an ingenious explanation of the Blue Men (*Na Fir gorma*) of the Hebrides, who according to the legend were the second of the three divisions of the fallen angels driven from heaven, the first becoming the Fairies on land and the third the "Nimble Men," i.e. Northern Streamers, in the sky. The Blue Men are associated with the sea. Mr. MacRitchie points out that not only did the Romans describe the tattooed or painted tribes of inland England as *cærulei* or *virides*, but they applied this epithet to the Hebridean peoples. He also cites the use of the epithet "green," as applied to individuals, in Campbell's *Wild Highland Tales* and in Irish legend. In all these cases he suggests that the epithet has arisen from the contact of a non-tattooing people with tribes who followed the practice. 113

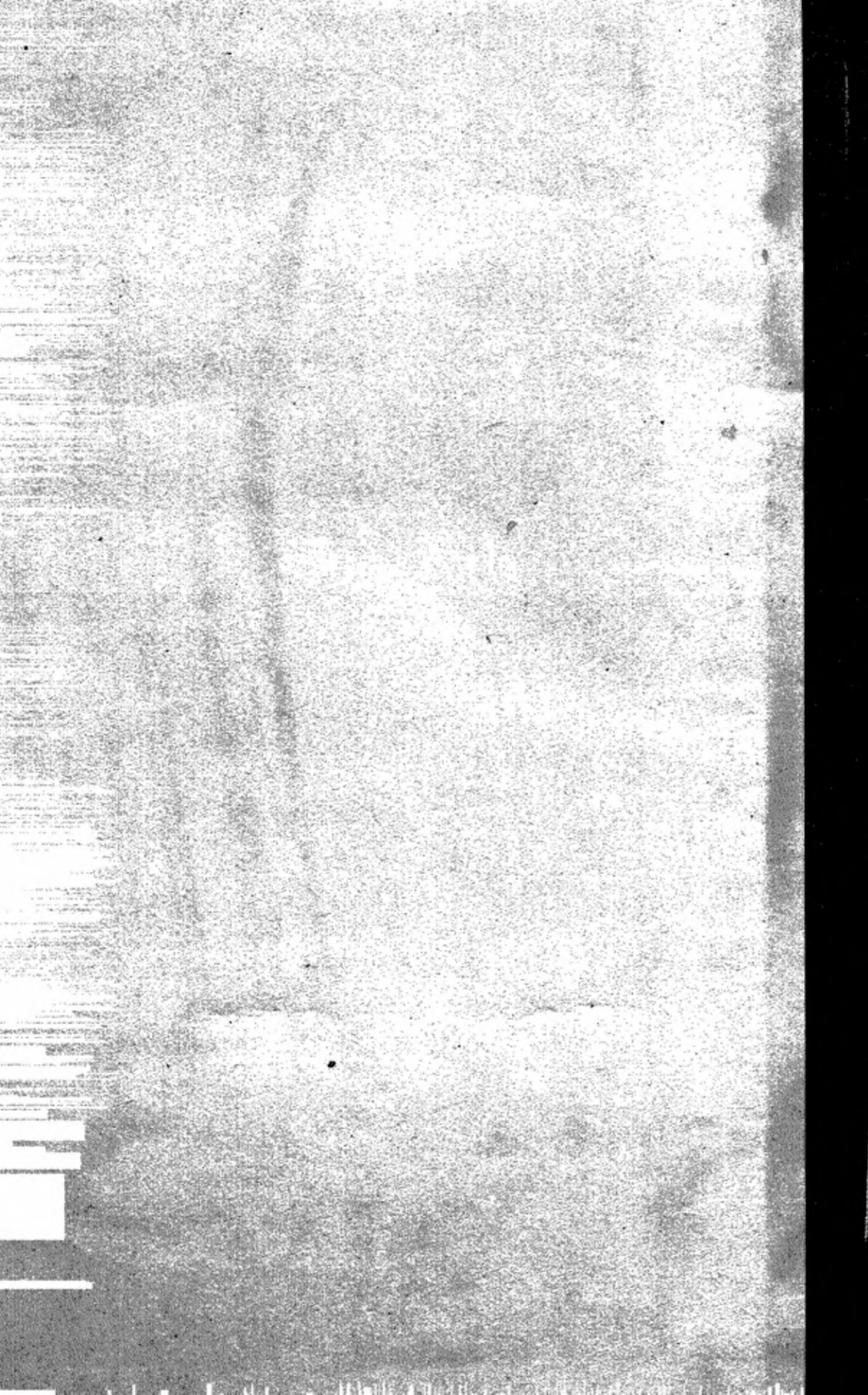
Vth International Congress of Historical Studies.—At the suggestion of the Royal Historical Society, Belgian historians are now making arrangements for the Vth International Congress of Historical Studies, to be held in Brussels from April 8th to April 15th, 1923. The Congress will be under the patronage of the King of the Belgians. The previous meetings of the Congress were held in Paris, Rome, Berlin, and London between the years 1900 and 1913.

The scope of the Congress has been somewhat extended. Among the subjects represented in the sections are Oriental History, Greek and Roman History, Byzantine Studies, the History of Religions, the History of Civilization, and Archaeology (including Prehistoric Studies).

An Executive Committee has been appointed, of which M. H. Perenne, Professor in the University of Ghent, is the President; M. F. Cumont, one of the two Vice-Presidents, and M. G. des Mares, General Secretary.

Applications for membership should be addressed to the Secretary, M. F. L. Ganshof, 12, rue Jaques Jordaens, Bruxelles. The amount of the subscription is 50 fr. Belgian.





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